Test 1 on Unit 1

1 Choose the correct answer:

a) The ratio 15 : 45 = ... as a fraction simplest form.

($\frac{15}{45}$ or $\frac{70}{15}$ or $\frac{15}{70}$ or $\frac{1}{3}$)

b) 120 minutes : 1.5 hours = ... : ..... in the simplest form.

(3 : 4 or 80 : 1 or 4 : 3 or 12 : 15)

c) If $\frac{x}{8} = \frac{6}{16}$, then x = ...

(3 or 4 or 1 or 2)

d) If A : B = 3 : 5, B : C = 5 : 7, then A : C = ... : ..... .

(3 : 7 or 3 : 10 or 5 : 3 or 5 : 4)

e) The ratio between the radius of a circle and its circumference is ..... .

(2π : 1 or π : 1 or 1 : 2π or 1 : 4)

2 Complete the following:

a) The ratio between a child's age and his father is 4 : 17, if the child is 8 years, then his father is ..... years.

b) $1\frac{1}{2}$ m^2 : 1500 cm^2 = ... : ..... (in the simplest form).

c) 7 : 9 = 14 : .....

d) In the ratio $\frac{2}{7}$, the antecedent is ..... , and the consequent is ..... .

e) If a : b : c = 4 : 5 : 11 and b – a = 7, then the value of c = ...

3 A car consumes 30 liters of benzene to cover 210 km. How many liters of benzene does the car consume to cover 420 km?

4 The area of a rectangle equals 96 cm^2. If its width equals 8 cm, calculate the ratio between the length of the rectangle and its perimeter.

5 If the ratio between the height of a building and a tree is 8:3 and the height of the tree is 12 m. Find the height of the building.

Test 2 on Unit 1

1 Choose the correct answer:

a) $\frac{1}{3} : \frac{1}{4}$ ..... (3 : 4 or 4 : 3 or 3 : 12 or 1 : 1)

b) The perimeter of a square: its side length = ... : ..... (1 : 4 or 1 : 1 or 4 : 1 or 1 : 3)

c) If 200 grams of chocolate give 600 calories, what is the number of calories found in 60 grams of the same chocolate? (180 or 200 or 36000 or 30)

d) If $\frac{4}{8} = \frac{12}{x}$, then x = ... (8 or 16 or 32 or 24)

e) The ratio between 2 feddans : 64 kirats equals .....

(2 : 64 or 3 : 4 or 4 : 3 or 32 : 1)

2 Complete the following:

a) $2\frac{1}{2}$ m : 150 cm = ... : .....

b) An irrigation machine irrigates 49 feddans in 7 hours, then the rate of work for this machine is ..... feddans/ hour.

c) If the difference between two numbers is 18 and the ratio between them is $\frac{5}{14}$, then the greatest number = ...

d) If Hany drinks 14 glasses of milk weekly, then the rate of what he drinks daily is ..... glasses.

e) The ratio 6 : 11 is the same as x : 33, then x =.....

3 The ratio between three angles of a triangle is 1 : 2 : 3. Find the measures of the three angles.

4 The number of students in a class in grade six is 35 students. If the number of boys in the class = $\frac{3}{4}$ number of girls, find the number of the boys and girls.

5 A factory produces 8400 cans in 14 hours. Calculate:

a) The rate of production per hour.

b) The number of the produced cans in 18 hours.

Test 1 on Unit 2

1 Choose the correct answer:

a) $\frac{2}{4} = \frac{...}{12}$ (4 or 8 or 6 or 3)

b) 45% = ... (as a fraction in the simplest form) ($\frac{45}{100}$ or $\frac{9}{20}$ or $\frac{4}{10}$ or $\frac{5}{100}$)

c) A picture of a tree is drawn with a drawing scale 2 : 80. If the real length of the tree is 3.2 m, what is its length in the drawing? (8 m or 0.08 m or 25 m or 8 m)

d) A merchant sold his goods with profit 17 %, then the percentage of the selling price to the buying price = ... (17 % or 117 % or 83 % or 50 %)

e) Which of the following ratios is equivalent to $\frac{21}{27}$? ($\frac{7}{54}$ or $\frac{9}{7}$ or $\frac{45}{35}$ or $\frac{35}{45}$)

2 Complete the following:

a) If the scale of a drawing > 1, it expresses .....

b) If 9 , 12 , x , 72 are proportional numbers, then x = ...

c) If the ratio between two numbers is 1 : 10 and $\frac{2}{3}$ of their sum is 66 , the two numbers are: ..... , ...

d) If $\frac{2(x-4)}{9} = \frac{36}{54}$, x = ...

e) If 60% of a number is 138, then the number is .....

3 A magnified picture of an insect was taken with an enlargement ratio 280 : 1, if the insect's length in the picture is 5.6 cm. Find its real length in mm.

4 A shop sold TV sets for each L.E 2550 after a 25% discount. What's the original price?

5 If the perimeter of an isosceles triangle is 15 cm and the ratio between its sides lengths is 1 : 1 : 3. Find its lengths.

Test 2 on Unit 2

1 Complete the following:

a) The product of the extremes = the product of .....

b) 40% of 80 = ...

c) 7 , 12 , ... , 36 are proportional.

d) 1 – (25% + 19%) = ...

e) If $\frac{a}{b} = \frac{c}{d}$, then a × d = ... × .....

2 Choose the correct answer:

a) If $2x = 7y$, then $\frac{x}{y}$ = ... ($\frac{2}{7}$ or $\frac{2}{14}$ or $\frac{2}{5}$ or $\frac{7}{2}$)

b) The drawing scale = $\frac{\text{.....}}{\text{.....}}$

($\frac{\text{length in reality}}{\text{length in drawing}}$ or $\frac{1}{\text{length in reality}}$ or $\frac{\text{length in drawing}}{\text{length in reality}}$ or $\frac{1}{2}$)

c) 0.192 = ... % (1.92 or 19.2 or 192 or 92)

d) If a man distributed 5400 pounds among his sons in the ratio 2 : 3 : 4, then the share of the second son is ..... pounds (600 or 1800 or 2400 or 1200)

e) If a : b = 4 : 9, then b : (a + b) = ... (9:4 or 1:13 or 13:9 or 9:13)

3 Hani deposited L.E 5000 in a bank, after one year the total amount was L.E 5500. Find the interest percentage.

4 The distance between two cities on a map is 6 cm and the real distance between them is 54 km. If the distance between two other cities on the same map is 9 cm. Determine the real distance between them in km.

5 A tractor ploughs 9 feddans in 3 hours, find the number of feddans that this tractor can plough in 6 hours.

Test 1 on Unit 3

1 Complete the following:

a) The pattern △□○△□○△□○ is a repetition of .....

b) If one angle is right in a parallelogram, then it is called a .....

c) A rhombus is a square if its ..... are equal in length.

d) 24 dm^3 = ... liters

e) If the area of one face of a cube is 81 cm^2, then its volume is ..... cm^3

2 Choose the correct answer:

a) | || ||| ..... (in the same pattern) (| || or |||| ||||| or ||| |||| or ||||)

b) The number of trapezoids in the opposite figure is .....  (1 or 2 or 3 or 5)

c) In the parallelogram, the sum of two consecutive angles = ...

(180 or 90 or 360 or 120)

d) $\frac{3}{4}$ liters = ... (750 m^3 or 750 dm^3 or 750 cm^3 or 0.75 mL)

e) The number of edges of a cuboid is ..... (6 or 8 or 4 or 12)

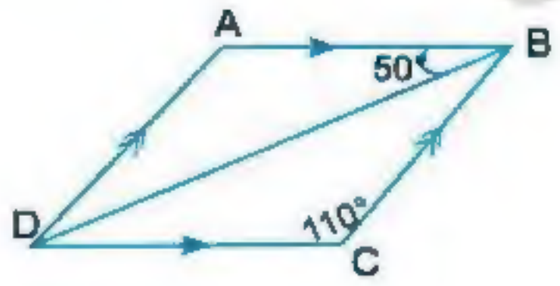
3 The height of a cuboid is 6 cm, if it has a square base and its volume is 726 cm^3, find the length of its base.

4 A cubic water tank with inner edge of 7 m. If water is poured into it at rate of 24500 liters/ hr.

Find the height of the water after one and half hour, and find the time needed to fill the tank.

5 In the opposite figure: ABCD is a parallelogram in which m (∠C = 110°), m(∠ABD = 50°)

Find: m (∠A), m (∠ADC) .



Test 2 on Unit 3

1 Complete the following:

a) The capacity of a container which is filled with 89000 mm^3 = ... liters

b) In the opposite figure: the number of parallelograms is .....

c) If the area of one base of a cuboid is 45 cm^2 and its volume is 270 cm^3, then its height = ... cm.

d) The two diagonals are equal and perpendicular in the .....

e) The following figure in the pattern △○△○○△○○○△ is .....

---

2 Choose the correct answer:

a) If the perimeter of one face of a cube is 24 cm, then its volume = ... cm^3

(36 or 4 or 216 or 144)

b) The mL is the measuring unit of the ..... (capacity or length or perimeter or area)

c) If the sum of lengths of all the edges of a cube is 84 cm, then its volume = ... cm^3

(7 or 49 or 588 or 343)

d) If the capacity of a cuboid shaped tank is 45000 liters and its height is 5 m, then the area of its base = ...

(9000 m^2 or 9 cm^2 or 9 m^2 or 0.3 m^2)

e) The shape whose diagonals are perpendicular but not equal is .....

(rectangle or rhombus or square or parallelogram)

---

3 Convert the following into liters: 12 m^3, 3.2 dm^3, 1205 cm^3, 847 mL

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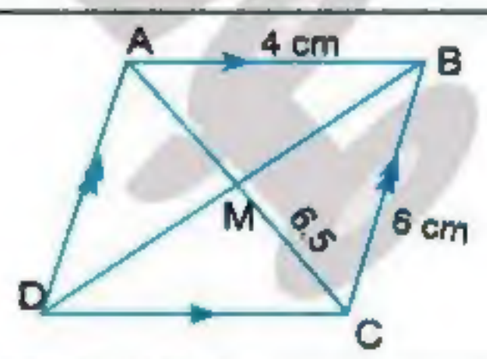
4 In the parallelogram ABCD, AB = 4 cm , BC = 6 cm and MC= 6.5 cm. Find the perimeter of Δ ACD.



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5 Which is greater in volume : a cube of edge length 9 cm or a cube whose base perimeter is 48 cm?

Test 1 on Unit 4

1 Choose the correct answer:

a) The following data are all of the quantitative data except .....

(age **or** marks of exam **or** blood type **or** telephone number)

b) If the marks of 4 students in the maths exam are: 40 , 59 , 35 , 41, then the range of these marks= .....

(24 **or** 12 **or** 40 **or** 59)

c) If the range of a set is 60 and the smallest value is 60, then the maximum value = ...

(60 **or** 0 **or** 1 **or** 120)

d) The following data are descriptive except .....

(the favorite color **or** the birth date **or** the name **or** the address)

2 Complete each of the following:

a) The difference between the greatest value and smallest value in a set is called .....

b) The length of a set = ... + ...

c) The weight is an example of ..... data

d) If we divide the data into sets as (7 – , 12 – , 17 –, ...), then the length of each set is .....

e) The name of a school is an example of ..... data

3 The following table shows the temperature degrees expected for 20 cities in one of the winter days. Draw the frequency curve of the table

Temperature degree	6 –	10 –	14 –	18 –	Total
Number of cities	4	7	6	3	20

4 The range of the exam scores of 150 students is 48. If you want to construct a frequency table of the scores with length of 6 for each group.

How many groups will there be?

5 The following table shows the wages of a factory workers. How many workers take a weekly wage less than L.E 70?

Weekly wage (L.E)	50 –	60 –	70 –	80 –	90 –	100 –	Total number of workers
Number of workers	15	9	4	4	6	7	45

Test 2 on Unit 4

1 Choose the correct answer:

a) The following data are descriptive except .....

(number of students or name or address or birth place)

b) ..... is one of the quantitative data. (Name or Address or Tallness or Gender)

c) If the value of a frequency distribution lies between (30 , 70) then the range of this distribution = ...

(100 or 40 or 50 or 70)

d) Which of the following data is not quantitative? .....

(ID number or date or year of birth or job title)

2 Complete each of the following:

a) The kinds of statistic data are quantitative data and .....

b) The range = ... × the number of the sets

c) The range = ... – .....

d) If we divide the data into the sets (7 – , 14 – , 21 – , ...) then the length of each set = ...

e) The favorite color is ..... data.

3 The following data shows the number of hours which are spent daily by 30 pupils to study their lessons:

Number of hours	2 –	4 –	6 –	8 –	10 –	Total
Number of pupils	6	9	4	7	4	30

Represent these data by frequency curve.

4 Find the range of the set: 12 , 16 , 45 , 23 , 7

5 The following table shows the tallness of 96 students in centimeter:

Tallness in cm	140 –	144 –	148 –	152 –	156 –	Total
No. of students	12	20	35	16	12	95

a) What is the percentage of students who are shorter than 156 cm?

b) What is the number of students who are taller than or equal to 144 cm and shorter than 156 cm?

Summary of the important rules

Unit 1

1) Ratio of two numbers = $\frac{\text{the first number}}{\text{the second number}}$

Unit 2

2) Drawing scale = $\frac{\text{length in drawing}}{\text{length in reality}}$

3) The profit = selling price – cost price

4) The percentage of profit = $\frac{\text{profit}}{\text{cost price}} \times 100\%$

5) Loss = cost price – selling price

6) The percentage of loss = $\frac{\text{loss}}{\text{cost price}} \times 100\%$

Unit 3

7) The perimeter of the square = 4 × side length

8) The perimeter of the parallelogram = the sum of lengths of two consecutive sides x 2

9) The area of the parallelogram = base length × height

10) The area of the square = side length × itself

The area of the square = $\frac{1}{2}$ × diagonal length × itself

11) The perimeter of the rectangle = (length + width) × 2

12) The area of the rectangle = length × width

13) The perimeter of the rhombus = 4 × side length

14) The area of the rhombus = side length × height

The area of the rhombus = $\frac{1}{2}$ × 1^{st} diagonal length × 2^{nd} diagonal length

15) The area of the triangle = $\frac{1}{2}$ × base length × height

16) The circumference of a circle = $2\pi r$

17) The volume of the cuboid = length × width × height

The volume of the cuboid = base area × height

18) The base area of the cuboid = volume ÷ height

19) The height of the cuboid = volume ÷ base area

20) The volume of the cube = the edge length × itself × itself

Unit 4

21) The range of a set of data = maximum value – minimum value

The range of a set of data = the length of the set × number of sets

22) The length of a set = $\frac{\text{the range}}{\text{the number of the set}}$

23) The number of sets of data = $\frac{\text{the range}}{\text{the length of the set}}$

24) The center of a set of data = $\frac{\text{lower limit + upper limit}}{2}$

Pre-exam Final Revision

1 Choose the correct answer from those given:

1) The ratio between the two numbers 3 : 9 is . . . . . ($\frac{1}{6}$ or $\frac{3}{2}$ or $\frac{1}{3}$ or $\frac{2}{3}$)

2) If $\frac{7}{2} = \frac{21}{x}$, then x = ... (6 or 21 or 12 or 7)

3) The following data are descriptive except .... (the favorite color or address or age or blood species)

4) 4 200 000 cm^3 = ... m^3. (42 or 420 or 4.2 or 4 200)

5) A cube, the perimeter of its base is 36 cm, then its volume = ... cm^3 (36 or 729 or 378 or 216)

6) 5 mL = ... m^3. (0.5 or 0.05 or 0.005 or 5)

7) $\frac{9}{20}$ = ... % (40 or 45 or 60 or 90)

8) The volume of the cuboid whose dimensions are 20 cm, 30 cm and 50 cm = ... dm^3 (10 or 25 or 30 or 50)

9) 500 gm : 1 $\frac{1}{2}$ kg = ... (1 : 2 or 1 : 3 or 2 : 3 or 1 : 5)

10) In the opposite figure: the number of parallelograms which can be obtained is ..... .

(4 or 5 or 7 or 9)

11) 4.6 liters = ... mL. (46 or 460 or 4 600 or 46 000)

12) If the length of a rectangle whose area equals 24 cm^2 is 6 cm, then the ratio between its perimeter to its length equals ..... . (4 : 1 or 10 : 3 or 12 : 5 or 3 : 2)

13) If the drawing scale is 1 : 2 000 and the real length is 20 m, then the drawing length is .... cm. (1 or 2 or 3 or 4)

14) If $\frac{x}{18} = 10\%$, then x = ... ($\frac{6}{5}$ or $\frac{9}{5}$ or $\frac{18}{5}$ or $\frac{9}{50}$)

15) The antecedent of the ratio $\frac{3}{7}$ is ..... . (3 or 7 or 10 or otherwise)

16) If a : b = 3 : 5 and b : c = $\frac{2}{5}$, then a : c = ... : ..... (6 : 25 or 6 : 10 or 10 : 25)

(2) Complete the following:

1) Comparing between two quantities from the same kind is ..... .

2) Comparing between two quantities of different kinds is ..... .

3) The equality of two ratios or more is ..... .

4) The ratio between the length of drawing and the length in reality is ..... .

5) Dividing a thing with a given ratio is ..... .

6) The ratio whose second term is 100 is ..... .

7) The parallelogram in which one angle is right is called ..... .

8) The parallelogram whose two adjacent sides are equal in length and its diagonals are perpendicular is called ..... .

9) The ratio is ..... .

10) The volume of a cube = ... × ..... × ..... .

11) The capacity of a vessel is ..... .

12) The diagonals bisect each other and are equal in length in each of ..... and ..... .

13) $\frac{1}{4} : \frac{1}{3} : \frac{1}{2}$ = ... : ..... : 6

14) If a : b = 2 : 1 , b : c = 3 : 2, then a : c = ... : .....

15) The rectangle is a parallelogram in which ....

16) If the volume of a cuboid equals 200 cm³, its base length is 5 cm and its width is 4 cm, then its height = ... cm.

17) If $\frac{x+12}{8} = 4$, then x = ...

18) If the purchase price of a fridge is L.E. 2 400 and its selling price equals 2 688 pounds, then the percentage of the profit = ...%

19) 12 kirats : 1 feddan = ... : ....

20) 12.5% = $\frac{\ldots\ldots}{8}$

21) If the marks of 6 pupils in one of the tests are 36, 40, 60, 33, 25 and 49, then the range for these marks = ...

22) If the dimensions of a cuboid are equal, then it is called .. ..

23) The perimeter of one face of a cube is 2 m, then its volume = ... cm³.

24) 18% of 300 = ...

25) Length in drawing = drawing scale × . ...

26) The numbers 6, x , 10 and 3 are proportional then x = ...

27) The cube has . . .. faces and .. .. edges.

28) 15% of a number = 90, then the number is ....

29) . ∴ ⁘ ⁘ ... . (in the same pattern)

30) 9 : 12 : 15 = ... : ..... : ..... (in the simplest form)

31) If the length in drawing is 3 cm and the length in real life is 6 km, then the drawing scale is ..... : .....

32) The range of distribution = ... – .....

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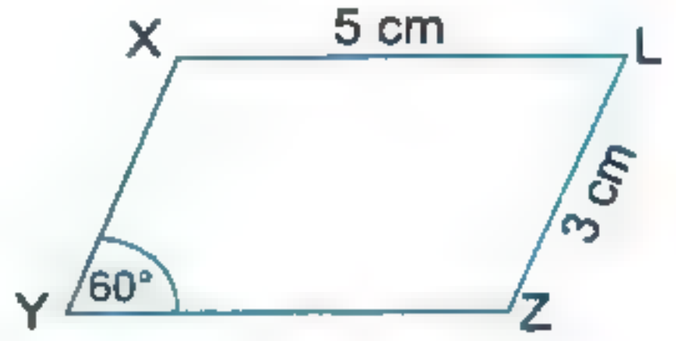
33) a) In the opposite figure:

XYZL is a parallelogram in which

XL = 5 cm, LZ = 3 cm and m(∠Y) = 60°

Find : **(1)** m (∠X) **(2)** m (∠L)

(3) The perimeter of ▱ XYZL



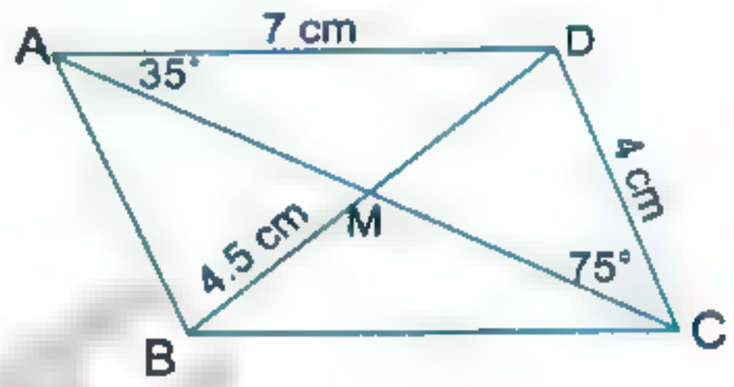
b) In the opposite figure: ABCD is ▱

in which m (∠CAD) = 35°, m (∠ACD) = 75°

and BM = 4.5 cm.

Find : **(1)** m (∠ADC) **(2)** m (∠ABC)

(3) m (∠CAB) **(4)** The perimeter of △ABD



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34) A map was drawn with a scale 1 : 500 000. If the distance between two cities on the map was 14 cm, **find the real distance between these two cities in km.**

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35) Three persons started a business, the first paid 30 000 pounds, the second paid 50 000 pounds, and the third paid 60 000 pounds, at the end of the year, the net profit was 56 000 pounds. **Calculate the share of each of them.**

---

36) The height of a minaret is 65 m and the height of its shadow in a moment equals 26 m. **What is the height of a tree in front of this minaret if the length of its shadow equals 15 m in the same moment?**

9 The ratio between the length of a rectangle to its width is 7 : 5. If the perimeter of the rectangle is 48 cm, find:

(1) The length of the rectangle.

(2) The ratio between length and perimeter.

(3) The area of the rectangle.

---

10 A photo was taken for one of the very delicate insects by enlargement ratio 100 : 1.
If the actual length of the insect is 0.2 mm, find the length of the insect in the picture.

---

11 A man owns a piece of land whose area is 48 kirats. He recommended that third of the area be specialized for building a school and the rest be divided among his son and his two daughters, such that the share of the son is twice the share of the daughter. Calculate the share of each of them.

---

12 A cuboid basin has internal dimensions of 12 dm , 0.8 m and 1.5 m , if 24 liters of water are poured into it every minute. Find the time needed for the basin to be filled.

---

13 A shopkeeper sold a refrigerator for L.E. 2 900, if the percentage of his profit is 16%. Find the buying price.

---

14 Distribute L.E. 300 among three persons by the ratio 1 : 2 : 3.

---

15 The ratio among three lengths of the sides of a triangle is 2 : 3 : 4. If the perimeter of the triangle is 54 cm, find the length of each side of the triangle.

---

16 Two machines are used for manufacturing cloth, the first produces 1500 m of cloth in 2 hours, the second produces 1800 m of cloth in two hours and a half, which of the two machines is more efficient?

15 A box of milk is in the shape of a cube of edge length 12 cm. We want to put a number of these boxes in a box of carton in the shape of a cube of edge length 60 cm. **How many boxes of milk can be put in the carton box?**

16 A vessel in the shape of a cuboid with dimensions 30 cm, 20 cm and 10 cm is filled with honey.

a) Calculate the capacity of the vessel.

b) If the price of one liter is L.E. 8, find the price of the honey.

17 The sum of all dimensions of a cuboid is 48 cm and the ratio between its dimensions is 5 : 4 : 3. **Find its volume.**

18 A container has 12 liters of honey. We want to put it in smaller vessels, the capacity of each of them is 400 cm^3, **calculate the number of needed vessels.**

19 A swimming pool is in the shape of a cuboid whose internal dimensions are 40 m, 30 m and 1.8 m, **find its capacity in liters.**

20 An aquarium for fish is in the shape of a cube, it has a lid with internal edge length of 3.5 cm, the aquarium is made of glass. **Find the volume of the glass, given that the thickness of the glass is 0.5 cm.**

21 8 400 cm^3 of water is poured into a vessel in the shape of a cuboid with internal dimensions 20 cm , 35 cm and 45 cm, **find:**

a) The height of water in the vessel.

b) The volume of water needed to be added to the vessel to fill it completely.

22 Safaa bought an automatic washing machine for L.E. 3 600. If the discount was 10%, **calculate the original price of the washing machine before the discount.**

23 Khaled bought a flat for L.E. 150 000 and after selling it, he found that the percentage of his loss was 5%. **Calculate the selling price of the flat.**

---

24 ***Complete:***

a) 1 – (35 % + 40 %) = ... % .

b) 3.6 dm^3 = ... liter(s).

c) 500 cm^3 = ... mL

d) 75% = $\frac{\text{.....}}{4}$

e) $\frac{1}{2}$ liter = ... mL

---

25 A piece of land is distributed between two brothers in the ratio 7 : 5 if the share of the first one exceeds the share of the second by 80 m^2. **Find the area of the land and the share of each of the first and the second.**

---

26 The following table shows the marks of 40 students in an examination.

Marks	10 –	20 –	30 –	40 –	.. ..	60 –	Total
Number of students	3	5	8	.....	9	5	40

a) Complete the table.

b) Represent these data by frequency curve.

c) Find the number of students who got 40 marks or more.

d) Find the number of students who got less than 30 marks.

---

27 In a cuboid, length × width = 30 cm^2 , width × height = 20 cm^2 , height × length = 24 cm^2. **Find the volume of this cuboid**. "The dimensions are whole numbers".

Final Exams from Different Governorates (2019 - 2020)

(1) Cairo - Helwan Educational Zone - Matariya Directorate - Official Schools

1 Choose the correct answer:

1) The ratio between the side length of the square and its perimeter is
(1 : 4 or 1 : 3 or 4 : 1 or 3 : 1)

2) The ratio between 12 kirats and $1\frac{1}{2}$ feddans is (in the simplest form)
(1 : 3 or 2 : 3 or 3 : 4 or 4 : 5)

3) The ratio between 18 months and 3 years = (1 : 2 or 5 : 8 or 5 : 2 or 5 : 6)

4) If the ratio among the measures of the angles of a triangle is 1 : 2 : 3,
then the measure of the smallest angle = (30 or 50 or 40 or 15)

5) If the real length of a tree is 6 m and its drawing length is 3 cm, then the drawing scale = ... (1 : 100 or 1 : 200 or 1 : 300 or 1 : 400)

6) $\frac{9}{20}$ = ... % (35 or 45 or 30 or 40)

7) 35% of 200 pounds = ... pounds (20 or 70 or 40 or 35)

8) The volume of the cuboid whose dimensions are 2 cm, 4 cm and 6 cm is
(60 cm^3 or 30 cm^3 or 120 cm^3 or 48 cm^3)

9) A cube, the perimeter of its base is 8 cm then its volume = ... cm^3
(12 or 27 or 64 or 8)

10) 2.5 litres = ... cm^3 (4000 or 1500 or 25000 or 2500)

11) The two diagonals are equal in length and perpendicular in a .....
(rectangle or parallelogram or rhombus or square)

12) ..... is quantitative data
(Favourite colour or Birthplace or Blood species or Age)

13) The following data are descriptive except .....
(colour or hobby or height or blood type)

2 Complete each of the following

14) $\frac{1}{4}$ of $2\frac{1}{4}$ = ...

15) If A : B = 2 : 3 and B : C = 2 : 5, then A : C = ...

16) If Dia drinks 21 glasses of milk weekly then the rate of what she drinks daily is .....

17) If $\frac{2}{3} = \frac{4}{x}$ then x =

18) The monthly salary of an employee is L.E. 5000 if he saves L.E 800, then the percentage of his savings = ... %.

19) In the parallelogram, the sum of the measures of any two consecutive angles = ...

20) 2 m^3 = ... dm^3

21) If one angle in a parallelogram is right then it is called .....

22. The range of the set of values 4, 7, 3 and 9 is .....

3 Answer the following questions:

23) A sum of money equals 360 pounds was distributed between Hany and Ahmed in the ratio 7 : 5, find the share of each of Hany and Ahmed

24) Ahmed drew a picture of his brother Osama with a drawing scale 1 : 40 If the real height of Osama is 160 cm, what is his height in the picture?

25) A tank in the shape of a cuboid of dimensions 7 m, 5 m and 9 m What is the volume of water in the tank?

26) The following table shows the marks of 50 students in one month in maths:

Marks	0 –	5 –	10 –	15 –	20 –	Total
Number of students	4	8	20	12	6	50

Draw the frequency curve.

(2) Giza (El-Haram Educational Zone - Al-Jazeera Language School)

1 Choose the correct answer:

1) 4.63 litres = ... cm^3 (463 or 4530 or 46300 or 46.3)

2) If a : b = 1 : 3 and b : c = 3 : 2, then a : c = ... (1 : 3 or 1 : 2 or 3 : 1 or 2 : 3)

3) If the numbers 2, 3, 10 and x are in proportion, then x = (10 or 13 or 14 or 15)

4) The ratio between 18 hours to one day and a half = (4 : 3 or 3 : 4 or 1 : 3 or 1 : 2)

5) If the length of edge of a cube = 5 cm, then its volume = ... cm^3 (125 or 25 or 5 or 0.5)

6) If $\frac{x}{18}$ = 10 %, then x = ... $\left(\frac{5}{6} \text{ or } \frac{9}{5} \text{ or } \frac{18}{5} \text{ or } \frac{9}{50}\right)$

7) If the volume of a cuboid equals 560 cm^3 and its base length = 8 cm and its width = 5 cm, then its height = ... cm. (50 or 14 or 80 or 20)

8) The ratio between the perimeter of a square and its side length = (1 : 3 or 4 : 3 or 4 : 1 or 1 : 4)

9) If (45% of x) = 90, then x = (20 or 100 or 200 or 300)

10) The diagonals are not equal in length and perpendicular in the (parallelogram or rectangle or rhombus or square)

11) The range of the marks 40, 20, 50, 80 and 70 is (35 or 40 or 80 or 60)

12) A factory produces 4000 cans of juice during 8 hours, then the rate of production = (320 or 400 or 500 or 230)

13) The following data are descriptive except (favourite colour or age or birthplace)

2 Complete the following:

14) 1500 cm^3 = ... dm^3

15) Ali bought 5 kg of orange for 15 pounds, then the price of 8 kg of the same orange = ...

16) The two diagonals in a parallelogram are ...

17) 1 – 35 % = ... %.

18) $\frac{1}{6}$: $\frac{1}{3}$: $\frac{1}{2}$ = ...

19) If 3, 4, x and 20 are proportional, then x + 5 = ...

20) Drawing scale =

21) The two diagonals are equal in length in and

22) 1.2 m 240 cm =

3 Answer the following questions

23) The distance between Cairo and Ismailia on a map is 7 cm with a drawing scale 1 : 2000000. Find the real distance between them in km.

24) Three persons set up a company. The 1st paid 35000 pounds, the 2nd paid 25000 pounds and the 3rd paid 20000 pounds. At the end of the year, the profit was 16000 pounds. What is the profit of each one of them?

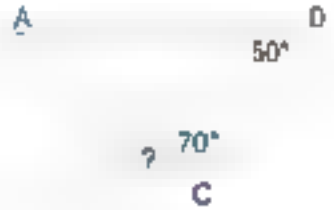
25) In the opposite figure

ABCD is a parallelogram in which

m (∠ D) = 50° and m (∠ ACD) = 70°

Find, a) m (∠ B) =

b) m (∠ ACB) =



26) The following table shows the extra money which 105 workers got in a month.

Extra money	20 –	30 –	40 –	50 –	60 –	70 –	Total
Number of workers	20	15	30	25	10	5	105

a) What is the number of workers who got less than 50 pounds?

b) Draw the frequency curve for the distribution

3 Alexandria/West Alexandria Educational Directorate

1 Choose the correct answer.

1) The percentage is a ratio its second term is (1 or 10 or 100 or 1000)

2) If the numbers 4 , x , 12 and 18 are proportional, then the value of x = (4 or 6 or 8 or 12)

3) If one angle of a parallelogram is right, then it is called a (rectangle or square or rhombus or cube)

4) The range of the set of values 7 3 6 9 and 5 is (2 or 4 or 6 or 12)

5) $1\frac{3}{4}$ = ... % (25 or 50 or 75 or 175)

6) In the proportion the product of extremes the product of means (> or < or ≠ or =)

7) $5\frac{9}{4}$ 14 5 = (in the simplest form) (1 2 or 2 1 or 4 1 or 1 4)

8) The following data are descriptive data except the (favourite colour or age or birthplace or blood species)

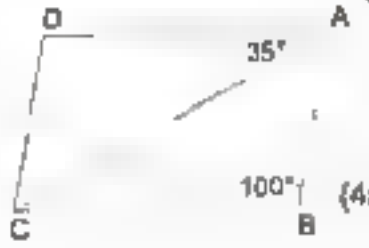
9) If $\frac{2}{5} = \frac{x}{15}$, then x = ... (2 or 5 or 6 or 15)

10) The capacity of the vessel in the shape of a cube with edge length 15 cm. filled with honey = ... cm^3 (3 375 or 33 75 or 337 5 or 3375)

11) The ratio between 16 kirats 1 feddan = (1 2 or 2 1 or 2 3 or 3 2)

12) 56000 cm^3 = ... dm^3 (5 6 or 56 or 560 or 5600)

13) In the opposite figure:
ABCD is a parallelogram,
m (∠ ACD) = ...



(45° or 35° or 180° or 100°)

2 Complete the following:

14) The ratio between the length of the side of an equilateral triangle and its perimeter is .....

15) 250 grams : $\frac{1}{2}$ kg = ...

16) If Hassan spends L.E. 45 within three days, then the rate of what Hassan spends per day = L.E. ..... per day

17) The volume of a cuboid is 64 cm^3 and the area of its base is 16 cm^2 then its height = ... cm.

18) A wooden box in the form of a cube its external volume is 1000 cm^3 its capacity is 729 cm^3 then the volume of the wood of the box = ... cm^3

19) The real length of an insect is 0.3 mm and its length in a picture is 4.5 cm then the drawing scale = ...

20) The data age height weight and favourite food are quantitative data except .....

21) If the sum of lengths of all edges of a cube is 132 cm, then its volume = ... cm^3

22) If A : B = 2 : 3 B : C = 3 : 5. then A : C = ...

3 Answer the following questions:

23) If the ratio among the measures of the angles of a triangle is 2 : 3 : 4 **find** the measure of each angle in this triangle

24) Khaled bought a flat for L.E 150000. he sold it at a 5% loss. **Calculate** the selling price of the flat

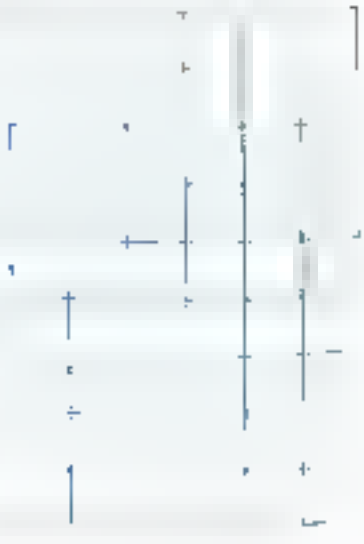
25) A container has 12 litres of oil, if we want to put this oil in small bottles the capacity of each of them is 400 cm^3

Calculate the number of bottles which are needed

26) The following table shows the marks of 100 students in one month in maths.

Marks	20 –	30 –	40 –	50 –	Total
Number of students	15	30	40	15	100

Draw the frequency curve of this distribution.



4 Menofia Tala Educational Directorate

1 Complete the following:

1) $\frac{1}{8}$ = ... %

2) The ratio between the length of the side of the equilateral triangle and its perimeter =

3) Age is ... data

4) 4.5 cm + 0.5 mm =

5) If an agricultural tractor ploughs 24 feddans in 4 hours then the rate of its performance =

6) The two diagonals are perpendicular in and

7) 65 dm^3 = ... litre.

8) If the ratio between two consecutive angles in a parallelogram is 2 : 1 then the measures of these angles are and

9) If $\frac{3}{4} = \frac{2}{8}$, then x =

2 Choose the correct answer:

10) The ratio between 350 P.T. , 5 pounds =
(2 : 5 or 2 : 1 or 7 : 10 or 5 : 1)

11) The volume of a cube the sum of its edge lengths is 36 cm = ... cm^3
(18 or 9 or 6 or 27)

12) 25 % + $\frac{1}{4}$ = ... %
(1 or 10 or 100 or 1000)

13) The range of the set of values 15 , 12 , 7 and 18 is
(20 or 19 or 11 or 22)

14) The ratio between $\frac{2}{3}$: $\frac{2}{5}$ =
(3 : 2 or 3 : 5 or 5 : 3 or 2 : 3)

15) A cuboid of volume 120 cm^3 and height 6 cm then the area of its base =
(72 cm or 70 cm or 20 cm or 20 cm^2)

16) 15% + 35% + ... = 1
(0.25 or 0.5 or 0.75 or 0.35)

17) If a : b = 2 : 3, b : c = 3 : 4, then a : c =
(3 : 1 or 3 : 2 or 1 : 2 or 2 : 1)

18) If one of the angles of the parallelogram is right and two of its adjacent sides are equal in length then it is called a
(rhombus or rectangle or triangle or square)

19) If the ratio 6 : 7 = x : 49, then x =
(42 or 48 or 54 or 63)

20) 20% of ... = 200
8000 or 1000 or 2000 or 1500)

21) If the length in drawing is 5 cm and the length in reality 10 km, then the drawing scale = (1 : 50000 or 1 : 100000 or 1 : 200000 or 1 : 300000)

22) 1 , 4 , 9 and (in the same pattern) (13 or 15 or 18 or 16)

3 Answer the following questions:

23) An auto fair owner bought a car for L.E. 45000 then he spent L.E. 5000 for repairing it and he sold it for L.E. 55000. Find the percentage of profit.

24) A cube-shaped piece of metal with edge length 12 cm was melted and reshaped into small cubes with edge length 3 cm. find the number of the cubes which can be obtained.

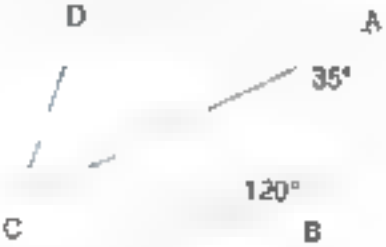
25) In the opposite figure

ABCD is a parallelogram,

m (∠ B) = 120° and m (∠ BAC) = 35°

without using geometrical instruments find

a) m (∠ D) = ... b) m (∠ DAC) =



26) The following table shows the marks of 70 students in one month

Marks	10 –	20 –	30 –	40 –	Total
Number of students	15	25	20	10	70

Draw the frequency curve of the distribution.

5 Gharbia Gharbia Educational Directorate

1 Choose the correct answer

1) $\frac{1}{2}$ an hour 36 minutes = (3 6 or 2 3 or 5 6 or 1 2)

2) The parallelogram in which the diagonals are perpendicular and not equal in length is called a (rectangle or rhombus or trapezium or square)

3) Hassan spends L.E 75 within three days, then the rate of what Hassan spends = L.E./day. (25 or 30 or 45 or 135)

4) 4 m^3 = dm^3 (40 or 400 or 4000 or 40000)

5) If the length of Suez Canal in a map of drawing scale 1 : 10000 is 15 cm, then its real length in km (1.5 or 165 or 170 or 185)

6) The range of values 7 , 3 , 6 and 9 is (3 or 4 or 12 or 6)

7) If the ratio among the measures of angles of a triangle is 2 : 3 : 4, then the measure of the smallest angle = ° (40 or 60 or 80 or 180)

8) If the area of one face of a cube = 4 cm^2, then its volume = cm^3 (6 or 24 or 8 or 64)

9) A merchant sold his goods with profit 15 %, then the percentage of the selling price = %. (15 or 85 or 115 or 150)

10) The line segment resulted from the intersection of two faces of a solid shape is called ° (vertex or edge or diagonal or face)

11) 0.0375 = % (0.375 or 3.75 or 37.5 or 375)

12) If ABCD is a parallelogram, then m(∠ A) + m(∠ B) = ° (90 or 180 or 360 or 108)

13) If $\frac{x + 12}{6} = 4$, then x = (4 or 6 or 24 or 12)

2 Complete the following:

14) The side length of a square = 3 cm, then the ratio between its side length and its perimeter =

15) If the base of a cuboid is a square, its volume is 2000 cm^3, its height is 5 cm, then the side length of its base = ... cm.

16) If a : b = 2 : 3 and b : c = 4 : 5, then a : c =

17) Age is ..... data

18) The circumference of the circle ... the length of its diameter =

19) The rhombus whose one of its angles is right is called a

20) Write the third proportional of the numbers 0.8, 4.8, and 12

21) 1.5 litres + 0.5 dm^3 + 500 cm^3 = ... litres.

22) 15% of ... = 75

3 Answer the following questions:

23) A piece of land is distributed between two brothers in the ratio 7 : 5. If the share of the first one exceeds the share of the second by 80 square metres. Find the area of the land and the share of each of the first and the second

24) If the sum of lengths of all edges of a cube equals 132 cm. calculate its volume.

25) Khaled bought a flat for L.E. 150000. After selling it, he found that the percentage of his loss was 15%. Calculate the selling price of the flat.

26) The following table shows the numbers of hours which are spent by 46 pupils to study their lessons daily

Number of hours	1	2	3 –	4 –	5 –	6 –	Total
Number of pupils	8	11	15	6	4	2	46

Represent these data by the frequency curve

6 [redacted] Kafr El-Sheikh [redacted] Kafr El-Sheikh Educational Directorate [redacted]

1 Choose the correct answer:

1) The range of the set of values 29 33 57 36 and 49 is

(32 or 33 or 28 or 86)

2) 15 105 = (1 7 or 10 7 or 3 22 or 5 36)

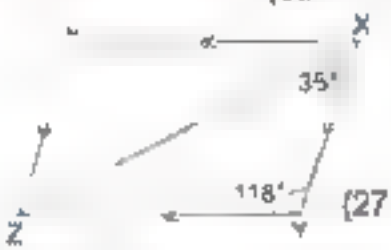
3) 56 000 cm^3 = ... dm^3 (5 6 or 560 or 0 56 or 56)

4) If a factory produces 5000 juice cans in 8 hours then its production rate per hour = ... cans/hour. (62 5 or 625 or 6 25 or 6250)

5) In the opposite figure:

If XYZL is a parallelogram,

then m (∠ LXZ) = ... °



(27 or 35 or 118 or 180)

6) If the percentage of the number of girls in a class is 67% then the percentage of the number of boys in this class = ... % (43 or 100 or 33 or 167)

7) If $\frac{2}{6} = \frac{10}{x}$ then x = (12 or 120 or 3 or 30)

8) If the drawing scale is < 1 then it expresses (enlargement or minimization or congruency or otherwise,

9) A vessel is in the shape of a cube with edge length 15 cm, its capacity = ... litres. (3.375 or 3375 or 33.75 or 337.5

10) The following data are all quantitative except (age or height or weight or favourite food)

11) 40% = ... (as a common fraction) ($\frac{4}{100}$ or $\frac{2}{50}$ or $\frac{2}{5}$ or $\frac{5}{20}$)

12) If A B = 2 3 and B C = 3 5 then A C = ... (2 5 or 5 2 or 3 5 or 5 3)

13) The volume of a cuboid of dimensions 70, 50, and 30 cm ..... the volume of a cuboid of base area 2925 cm^2 and height 35 cm. (< or > or = or ≥)

2 Complete the following:

14) The four angles are right angles in each of the ..... and .....

15) If the ratio between the number of uneducated people to those who are educated is in a village is 4 25 then the ratio ..... %

16) 55 mL = ... cm^3

17) 16 kirats 1 feddan = ... (in the simplest form)

18) If Ahmed bought 5 kg of orange for L.E 15, then he amount he must pay to buy 8 kg = L.E

19) The ratio between the perimeter of the square to its side length is

20) If the sum of lengths of all edges of a cube is 132 cm, then its volume = cm^3

21) If the distance between two cities on a map is 3 cm and the real distance between them is 9 km then the drawing scale =

22) The opposite table shows the marks of 50 students in one test then the number of students whose marks are 30 or more =

Sets	10 –	20 –	30 –	40 –
Number of students	6	10	20	14

3 Answer the following questions:

23) He has bought an electric washing machine for L.E 3600. If the discount was 10% **calculate** the original price of it before the discount.

24) If the ratio between the lengths of the sides of a triangle is 2 : 3 : 4 and the perimeter of the triangle is 54 cm, **find** the length of the longest side.

25) A cube-shaped tin of internal edge length 36 cm is filled with maize oil It is wanted to put the oil in small tins in the shape of cubes of internal edge length 9 cm. **Find** the number of small tins needed to do that

26) The following table shows the marks of 100 pupils in maths test

Marks	20	30	40	50	60 –
Number of pupils	20	15	30	25	10

Draw the frequency curve for this distribution

7 [redacted] Educational Directorate

1 Choose the correct answer:

1) If A . B = 2 5, then $\frac{A}{A+B}$ = (1 2 or 2 7 or 3 5 or 2 9)

2) $\frac{3}{7} \times \frac{7}{3}$ = % (50 or 70 or 80 or 100)

3) The range of the set of values 7 3 6, 9 and 5 is (9 or 7 or 6 or 3)

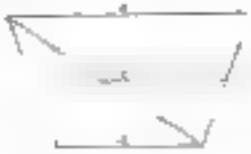
4) If $\frac{8}{x} = 0.5$, then x = (4 or 8 or 16 or 40)

5) A factory produces 4000 cans of juice during 8 hours
then the rate of production = cans/hour (100 or 200 or 300 or 500)

6) If ABCD is a parallelogram in which AB ⊥ BC, then it is called a
(square or rhombus or trapezium or rectangle)

7) 2 m^3 = dm^3 (2 or 20 or 200 or 2000)

8) If the ratio among the measures of the angles of a triangle is 1 2 3, then
the measure of the smallest angle (10° or 30° or 45° or 60°)

9) In the opposite figure:
The number of trapezoids = 
(2 or 3 or 4 or 5)

10) If the height of a building is 20 m and the ratio of magnification = 1 100,
then its height on the picture = cm. (10 or 15 or 20 or 25)

11) The following data are descriptive except
(favourite food or marital status or weight or birthplace)

12) If a merchant bought a TV set for L.E 1000, sold it for L.E 1200 then the
percentage of profit = %. (15 or 20 or 30 or 45)

13) If the perimeter of the base of a cube = 36 cm, then its volume = cm^3
(6 or 36 or 216 or 729)

2 Complete the following

14) 8 hours $\frac{1}{2}$ day =

15) The circumference of a circle = 2 R x
(in the same pattern)

16)

17) 75% litre + 25% dm^3 = dm^3

18) The two diagonals are perpendicular and equal in length in the

19) [illegible] the value of x is

20) The length of set = [illegible] the number of sets

21) [illegible] the ratio between them is 2 : 7, then the smallest number =

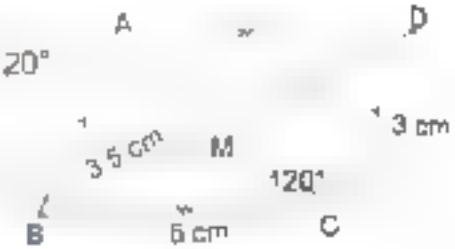
22) [illegible] whose dimensions are 5 cm, 3 cm and 2 cm = [illegible] cm³

3 Answer the following questions:

23) **In the opposite figure**

ABCD is a parallelogram in which m ∠ BCD = 120°

CD = 3 cm, BC = 5 cm and BM = 3.5 cm



Find:

a) m (∠ BAD) =

b) The perimeter of the triangle DAB =

24) A car covers 300 km in 4 hours and another car covers 65 km in 50 minutes which of the two cars is faster?

25) Nahed bought a computer for L.E 4500 and the discount was 10%

Calculate the original price of the computer before discount

26) The following table shows the marks of 50 students in English test.

Marks	0	5 –	10 –	15	20	Total
Number of students	4	8	18	12	8	50

a) Draw the frequency curve

b) How many students who got less than 10 marks?

(8) South Sinai - South Sinai Educational Directorate

1 Choose the correct answer:

1) If 2 : 3 :: x : 15 are proportional, then x = (2 or 5 or 6 or 10)

2) The percentage is a ratio its second term is (10 or 100 or 1000 or 10000)

3) 3 litres = ... cm^3 (3 or 30 or 300 or 3000)

4) If the ratio between a child's age to his brother's age is 2 : 3 and the child's age is 6 years, then his brother's age = ... years (9 or 15 or 39 or 41)

5) The ratio between the two numbers 1.5 and 4 = ... (In the simplest form)
(1 : 4 or 8 : 9 or 3 : 8 or 1 : 6)

6) The number of edges of a cube ..... the number of faces of a cuboid
(> or < or = or ≤)

7) A merchant bought a TV set for L.E. 1800 and he sold it for L.E. 3600, then his profit = L.E. ..... (1800 or 800 or 200 or 3800)

8) The range of the set of values 7, 3, 6, 1 and 5 is ..... (4 or 2 or 6 or 12)

9) If the real length is 9 m and the drawing length is 9 cm, then drawing scale = ... (1 : 10 or 1 : 100 or 1 : 1000 or 1 : 9)

10) The antecedent of the ratio 2 : 11 is ..... (3 or 5 or 11 or 2)

11) An agricultural tractor ploughs 16 feddans in 4 hours, then its rate of performance = ... feddans/hour (4 or 6 or 7 or 8)

12) If one of the angles of a parallelogram is right angle, then it is called a .....
(square or rectangle or rhombus or triangle)

13) The descriptive data from the following is .....
(volume or area or favourite colour or length)

2 Complete the following:

14) $\frac{1}{4}$ = ... %.

15) The ratio between the side length of the square and its perimeter = ...

16) If the volume of a cuboid is 80 cm^3 and the area of its base is 16 cm^2, then its height = ... cm.

17) 250 grams : $\frac{1}{4}$ kilogram = ... (In the simplest form)

18) If the drawing scale is > 1 then this expresses .....

19) If a : b = 2 : 5 , b : c = 5 : 7 then a : c =

20) 5 m^3 = ... dm^3

21) The kinds of data are descriptive and ..... data.

22) The sum of edge lengths of a cube is 72 cm. then its volume = ... cm^3

3 Answer the following questions

23) Hoda bought an automatic washing machine for L.E. 5400 and the discount was 10%.

Calculate the original price of the washing machine before discount.

24) The ratio among the measures of the angles of a triangle is 1 : 3 : 5

Find the measure of each angle in the triangle

25) In the opposite figure:

ABCD is a parallelogram in which

m (∠ DAC) = 35°, m (∠ B) = 105°

Find:

a) m (∠ BAC) = ... b) m (∠ D) = ...

26) The following table shows the marks of 100 students in one maths test:

Marks	10 –	20 –	30 –	40 –	Total
Number of students	15	30	40	15	100

Draw the frequency curve for this distribution in the latter

Final Revision

1 Choose the correct answer

1) 16 kirats : 1 feddan = ... (1 6 or 3 2 or 1 3 or 2 3

2) If $\frac{7}{x} = \frac{21}{y}$ then $x + 2 =$ ..... (8 or 21 or 12 or 7)

3) The following data are descriptive except .....

(favourite colour or address or age or blood species)

4) 4 200 000 cm^3 = ... m^3 (42 or 420 or 4 2 or 4 200)

5) A cube the perimeter of its base is 36 cm, then its volume = ... cm^3

(36 or 729 or 378 or 216)

6) 5 mL = ... cm^3 (0.5 or 0.05 or 0.005 or 5)

7) $\frac{9}{20}$ = ... %. (40 or 45 or 60 or 90)

8) The volume of the cuboid whose dimensions are 20 cm, 30 cm and 50 cm = ... dm^3

(1000000 or 25000 or 30 or 500000)

9) 500 gm ..... $1\frac{1}{2}$ kg (1 2 or 1 3 or 2 3 or 1 5)

10) 4 6 litres = ... mL (46 or 460 or 4 600 or 46 000)

11) If the length of a rectangle whose area equals 24 cm^2 is 6 cm, then the ratio between its perimeter to its length equals (4 1 or 10 3 or 12 5 or 3 2)

12) If the drawing scale is 1 2 000 and the real length is 20 m, then the drawing length is ..... cm. (1 or 2 or 3 or 4)

13) If $\frac{x}{18} = 10\%$ then x = ... $\left(\frac{6}{5} \text{ or } \frac{9}{5} \text{ or } \frac{18}{5} \text{ or } \frac{9}{50}\right)$

14) The antecedent of the ratio $\frac{3}{7}$ is ..... (3 or 7 or 10 or otherwise)

15) If a : b = 3 5 and b : c = $\frac{2}{5}$, then a : c = ... (6 25 or 6 10 or 10 25)

2 Complete the following

1) The equality of two ratios or more is called .....

2) The ratio between the length of drawing and the length in reality is called .....

3) A rate is

4) If the drawing scale is > 1, this expresses

5) If the drawing scale is < 1, this expresses

6) Length in drawing = drawing scale ×

7) If the length in drawing is 3 cm and the length in real life is 6 km then the drawing scale is

8) The ratio whose second term is 100 is called

9) The numbers 6, x, 10 and 3 are proportional, then x

10) $\frac{1}{4} : \frac{1}{3} : \frac{1}{2} =$ ... : ... : 6

11) The parallelogram in which one angle is right is called a

12) The parallelogram whose two adjacent sides are equal in length and its diagonals are perpendicular is called a

13) The diagonals bisect each other and are equal in length in each of and

14) A factory produces 45000 cans for juice during 9 hours, then the rate of the production is ...

15) If the volume of a cuboid equals 200 cm^3, its base length is 5 cm and its width is 4 cm, then its height = ... cm.

16) If $\frac{x + 12}{8} = 4$, then $x =$

17) If the cost price of a fridge is L.E 2400 and its selling price equals 2688 pounds, then the percentage of the profit = ...%

18) $\frac{3}{5} =$ ..... %

19) 12.5% = $\frac{..}{8}$

20) If the marks of 6 pupils in one of the tests are 36, 40, 60, 33, 25 and 49, then the range for these marks =

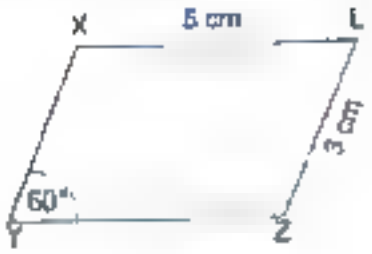
3 a) In the opposite figure

XYZL is a parallelogram in which

XL = 5 cm , LZ = 3 cm and m (∠Y) = 60°

Find (1) m (∠X). (2) m (∠L).

(3) The perimeter of ▱ XYZL



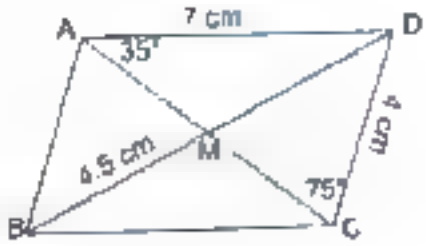
b) In the oppos te figure

ABCD is ▱ in which m (∠CAD) = 35°,

m (∠ACD) = 75° and BM = 4.5 cm.

Find: (1) m (∠ADC). (2) m (∠ABC).

(3) m (∠CAB) (4) The perimeter of △ABD



4 A map was drawn with a scale 1 500000 If the distance between two cities on the map was 14 cm, find the real distance between these two cities n km

5 Three persons started a business, the first paid 30000 pounds the second paid 50000 pounds and the third paid 60000 pounds, at the end of the year, the net profit was 56000 pounds. Calculate the share of each of them

6 Ahmed drew a picture of his brother Osama with a drawing scale 1 40 If the real height of Osama is 160 cm. What is the height in the picture?

7 The ratio between the length of a rectangle to its width is 7 5. If the perimeter of the rectangle is 48 cm. find:

a) The length of the rectangle b) The ratio between length and perimeter

c) The area of the rectangle.

8 A photo was taken for an insect by an enlargement ratio 100 1

If the real length of the insect is 0.8 mm find the length of the insect in the picture

9 A cuboid tin with inner dimensions 2 dm. 3 dm and 4 dm was full of honey.

Calculate the price of honey, given that the price of one litre is L.E. 20

10 A cuboid basin has internal dimensions of 1.2 dm, 0.8 m and 1.5 m. If 24 litres of water are poured into it every minute. Find the time needed for the basin to be filled.

11 A shopkeeper sold a refrigerator for L.E. 2900 if the percentage of his profit is 16%. Find the buying price.

12 Distribute L.E. 300 among three persons by the ratio 1 : 2 : 3

13 The ratio among three lengths of the sides of a triangle is 2 : 3 : 4. If the perimeter of the triangle is 54 cm, find the length of each side of the triangle.

14 Two machines are used for manufacturing cloth, the first one produces 1500 m of cloth in 2 hours, the second one produces 1800 m of cloth in two hours and a half, which of the two machines is more efficient?

15 Heba bought a vacuum cleaner for 640 pounds with a discount 20%. Calculate the price before discount.

16 A container has 12 litres of honey. We want to put them in smaller vessels, the capacity of each of them is 400 cm^3, calculate the number of needed vessels.

17 If a swimming pool is in the shape of a cuboid whose internal dimensions are 40 m, 30 m and 1.8 m, find its capacity in litres.

18 An aquarium for fish is in the shape of a cube with a lid its internal edge length is 3.5 cm. The aquarium is made of glass. Find the volume of the glass, given that the thickness of the glass is 1 cm.

19 8400 cm^3 of water is poured into a vessel in the shape of a cuboid with internal dimensions 20 cm, 35 cm and 45 cm, find:

a) The height of water in the vessel.

b) The volume of water needed to be added to the vessel to fill it completely.

20 Safaa bought an automatic washing machine for L.E. 3600. If the discount was 10%, calculate the original price of the washing machine before the discount.

21 A piece of land is distributed between two brothers in the ratio 7 : 5. If the share of the first one exceeds the share of the second by 80 m², find the share of each of the first and the second and the area of the land.

22 The following table shows the marks of 40 students in an examination

Marks	10 –	20 –	30 –	40 –	[illegible]	60 –	Total
Number of students	3	5	8		9	5	40

a) Complete the table

b) Represent these data by a frequency curve.

c) Find the number of students who got 40 marks or more.

d) Find the number of students who got less than 30 marks

Examinations from Different Governorates 2018

1 Cairo Governorate El Sahel Educational Zone

Answer the following questions:

(1) Choose the correct answer from those given:

1) The ratio between 9 months and 3 years is ..... (9 : 3 or 3 : 9 or 1 : 4 or 4 : 1)

2) If the lower limit of a set is 6 and the upper limit is 10, then the center of the set is ..... (5 or 6 or 8 or 10)

3) 1650 ÷ 25 ☐ 1650 × 25 (> or = or ≤ or <)

4) The sum of edges of a cube is 24 cm, then its volume = ... cm^3 (2 or 8 or 12 or 24)

5) The perimeter of the square = length of the side × ..... (2 or 3 or 4 or itself)

6) $\frac{3}{8}$ = ... % (12.5 or 25 or 35 or 37.5)

7) $\frac{5}{4} : 3\frac{1}{4}$ = ... (5 : 13 or 1 : 3 or 3 : 1 or 5 : 9)

8) If $\frac{x}{15} = \frac{2}{5}$ then $x + 4$ = ... (6 or 8 or 10 or 12)

9) If the volume of a cube = 27 cm^3 , then the area of one of its faces = ... (9 or 12 or 18 or 24)

10) If $\frac{x + 12}{8} = 2$, then x = ... (6 or 4 or 8 or 16)

11) If the perimeter of a cube base is 36 cm, then its volume = ... (36 or 6 or 729 or 216)

12) 25% from 1000 = 50 % from ..... (2000 or 1500 or 1250 or 500)

13) If the real length of a tree is 6 m and its drawing length is 3 cm, then the drawing scale = ... (1:100 or 1:200 or $\frac{1}{300}$ or 1:600)

14) 2.8 dm^3 = ... liters (2.8 or 28 or 2800 or 28000)

15) The following data are descriptive except ..... (favorite color or name or age or blood species)

16) 263.5 cm ≃ ..... meters. (26350 or 264 or 3 or 260)

(2) Complete each of the following:

17) The range of values 3 , 5 , 1 , 6 , 8 is ..... .

18) A factory produces 1600 lamps in 4 hours, the production rate per hour = ... lamp / hour

19) If $\frac{2}{7} = \frac{x}{21}$ then $x - 2$ = ...

20) Favorite color is from ..... data.

21) 12.62 + 10 = ...

22) ABCD is a parallelogram in which m (∠B) = 115°,

then m (∠D) = ...

(3) Answer the following questions:

23) If the ratio among the share of Amal, Hala and Samira is 3 : 5 : 7 and Samira's share is 42 pounds. **What is the share of both Amal and Hala?**

24) A map was drawn on a scale of 1 : 500 000 and the distance between two cities was 10 cm. **Calculate the real distance between the two cities.**

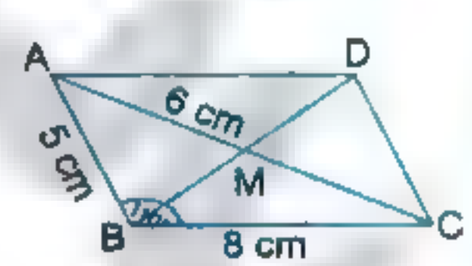
25) Emad bought a fridge for 7200 L.E with a discount to 10%. **Calculate the price before the discount.**

26) A cuboid with square base, whose side length is 7 cm, and its height is 4 cm, **calculate its volume.**

27) **In the following shape:** ABCD is a parallelogram in which AB = 5 cm, BC = 8 cm, MA = 6 cm, m (∠ABC) = 110° , **calculate:**

1) m (∠BCD)

2) The perimeter of the triangle ADC.



28) The following table shows the ages of visitors to a museum during a certain period.

Draw the frequency curve for this distribution:

Visitors	10 –	20 –	30 –	40 –	50 –	Total
Frequency	7	10	15	20	13	65

2 Cairo Governorate : El Nozha Educational Zone

Answer the following questions:

1) Choose the correct answer from those given:

1) $\frac{4}{5}$ = ... (decimal form) (0.2 or 0.8 or 0.25 or 0.75)

2) The sum of measures of the interior angles of a triangle is .....

(90° or 120° or 180° or 360°)

3) If $\frac{x}{9} = \frac{4}{3}$, then $x + 2$ = ... (12 or 14 or 16 or 20)

4) If one angle of a parallelogram is right, then it is called a .....

(rectangle or trapezoid or rhombus or triangle)

5) The ratio between 250 grams : $\frac{1}{2}$ kg = ... :

($\frac{1}{2} : \frac{1}{4}$ or $\frac{1}{4} : \frac{1}{2}$ or $1\frac{1}{4} : \frac{1}{2}$ or $\frac{1}{4} : 1\frac{1}{2}$)

6) The following data are quantitative except .....

(weight or tallness or favorite color or age)

7) If $\frac{7}{13} = \frac{x}{52}$, then x = ... (14 or 21 or 28 or 25)

8) 39 days ≃ ..... weeks. (5 or 6 or 7 or 8)

9) The following data are descriptive except ..... (6 or 8 or 10 or 12)

(favorite color or birth place or age or blood species)

10) 18 kirats : 2 feddans = ... (in the simplest form) (3:4 or 4:3 or 9:2 or 3:8)

11) 4.6 liters = ... mL. (46 or 460 or 46000 or 4600)

12) If the values of a set of data lie between 20 and 60, then the range of these data is .....

(40 or 80 or 60 or 100)

13) The perimeter of a circle = ... ($2\pi r$ or πr^2 or πr or $3r$)

14) In the opposite figure: the number of parallelograms which can be obtained is ..... (4 or 5 or 7 or 9)

15) A cube of volume 125 cm^3. , its base area = ... ($25\ cm^2$ or 25 cm or $5\ cm^2$ or 5 cm)

(2) Complete each of the following:

16) $\frac{3}{10}$ = ... %

17) 16 kirats : 1 feddan = ... :

18) The volume of a cuboid is 125 cm^3 and the area of its base is 25 cm^2, then its height = ... cm

19) The range of the set of values 7, 5 , 3 , 6 and 9 is .....

20) If the height of the fence of the villa in the design is 5 cm and its real height is 6 meters then the drawing scale = :

21) 1.5 liter + 0.5 dm^3 = ... liter.

(3) Answer the following questions:

22) Two wire pieces, the ratio between their length is 5 : 9. If the sum of their lengths = 126 meters. **Calculate the length of each piece.**

23) If the ratio among the side lengths of a triangle is 2 : 3 : 4 and the perimeter of the triangle = 36 cm. **Calculate the lengths of each side of the triangle.**

24) A car consumes 20 liters of benzene to cover a distance of 250 km. **Calculate the rate of consumption of the car to benzene.**

25) Heba bought an automatic washing machine for L.E 3600 and the discount was 10%. **Calculate the original price of the washing machine before discount.**

26) In the opposite figure: ABCD is a parallelogram,

m (∠A) = 47°, m (∠DBC) = 45° and AB = 5 cm. **Calculate:**

a) the length of $\overline{DC}$ **b)** m (∠ABD).

27) The following table shows the marks of 50 students in maths test.

Marks	10 –	20 –	30 –	40 –	Total
Number of students	5	10	15	20	50

a) Draw the frequency curve of this distribution.

b) What is the number of students whose marks are less than 30?

3 Cairo Governorate - Middle Cairo Educational Zone

Answer the following questions:

(1) Choose the correct answer from those given:

1) If 5 , x , 10 , 14 are proportional, then x = ... (10 or 14 or 2 or 7)

2) The smallest prime number is ..... (0 or 1 or 2 or 3)

3) The sum of measures of each two consecutive angles in the parallelogram = ...
(90° or 180° or 150° or 108°)

4) All the following data are quantitative except ..... (age or telephone number or color or weight)

5) The ratio between any side length of a square and its perimeter = ...
(1 : 4 or 1 : 2 or 1 : 3 or 1 : 1)

6) 7.2 + 0.9 = ... (7.11 or 8.1 or 71.1 or 80.1)

7) The range of the values 1 , 3 , 4 , 4 , 5 is ..... (1 or 3 or 4 or 5)

8) If the numbers 4 , x, 12 , 18 are proportional quantities, then x = ...
(3 or 6 or 9 or 12)

9) The measure of the straight angle = ... (90° or 180° or 360° or 120°)

10) $\frac{1}{2}$ = ... (0.5 or 0.2 or 0.1 or 0.05)

11) 300 gm : $1\frac{1}{2}$ k.g = ... (1 : 3 or 1 : 5 or 1 : 10 or 1 : 30)

12) If one of the angles of a parallelogram is right and its two adjacent sides are equal in length, then it is called a ..... (rhombus or rectangle or triangle or square)

13) The cuboid has ..... edges. (12 or 8 or 6 or 4)

14) 1.2 liters + 800 cm^3 = ... liters. (2 or 9.2 or 200 or 2000)

Complete each of the following:

15) A machine irrigates 15 feddans in 5 hours, then its rate = ... feddans/hours.

16) 250 gm : $\frac{1}{2}$ kg. = ... : ..... (in the simplest form)

17) 4.9 liters = ... cm^3

18) The range of the values 7 , 18 , 5 , 11 , 9 is .....

19) 3 : 4 = ... %

20) If the sum of edge lengths of a cube equals 12 cm, then its volume = ... cm^3

(3) Answer the following questions:

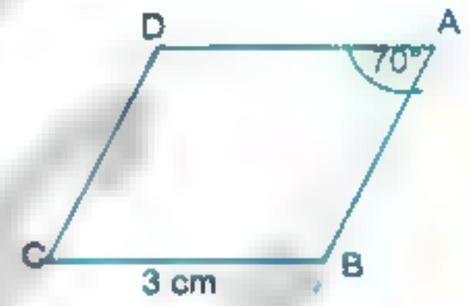
21) A man bought goods for L.E 4500 and he sold them with a profit 10%. **Find the selling price.**

22) In a mapping picture for some cities is drawn by a drawing scale 1 : 300000. If the real distance between two cities is 45 km, **find the distance between them on the map.**

23) Three persons set up a commercial business, the first paid L.E 40000, the second paid L.E 50000, and the third paid L.E 60000. A at the end of the year, the net profit was L.E 45000. **Calculate the share of each of them from the profit.**

24) A box is in the shape of a cuboid. Its internal dimensions are 25 cm, 20 cm and 30 cm. It is wanted to be filled with bars of chocolate each of them is cubic with edge length 5 cm. **Calculate the number of bars of chocolate them fill the box completely.**

25) In the opposite figure: ABCD is a rhombus in which, m (∠A) = 70°, BC = 3 cm, **without using measuring tools, find:**



1) m (∠C)

2) The perimeter of the rhombus.

26) In the Orphan's Day, a group of pupils paid sums of money in pounds as shown in the following table:

The sum of money	3 –	5 –	7 –	9 –	11 –	Total
Number of pupils	7	10	15	10	8	50

Represent the previous data by the frequency curve.

4 Giza Governorate 6th October Educational Directorate

Answer the following questions:

I.1 Choose the correct answer from those given:

1) The sum of measures of angles of the triangle = ... (180° or 90° or 120° or 360°)

2) The ratio between the two numbers $\frac{2}{3}$, $3\frac{1}{3}$ = ... (1:2 or 2:5 or 1:10 or 1:5)

3) If the numbers 4 , x , 12 , 18 are proportional, then the value of x = ...

(2 or 3 or 6 or 54)

4) A cuboid, its dimensions 2 , 3 and 5 cm, then its volume = ... cm^3

(10 or 25 or 30 or 50)

5) All the following data are descriptive except .....

(favorite color or the place of birth or age or blood type)

6) $\frac{3}{4}$ = ... (in decimal form) (0.2 or 0.5 or 0.75 or 0.25)

7) 1500 cm^3 = ... liter(es). (0.15 or 15 or 1.5 or 150)

8) The ratio between 14 days and 3 weeks is ..... (14:3 or 3:14 or 2:3 or 3:2)

9) If an agricultural machine ploughs 14 feddans in 3.5 hours, then the rate of the performance of this machine is ..... ($\frac{1}{4}$ or $2\frac{1}{2}$ or 4 or $10\frac{1}{2}$)

10) The smallest number of the following is ..... (0.5 or 0.25 or 0.125 or 0.375)

11) If $\frac{21}{7} = \frac{x}{2}$, then x = ... (6 or 21 or 12 or 7)

12) 4200 000 cm^3 = ... m^3. (42 or 420 or 4.2 or 4200)

13) If $\frac{x + 12}{8} = 2$, then x = ... (6 or 4 or 8 or 16)

14) 25 % from 1000 = 50% from ..... (2000 or 1500 or 1250 or 500)

15) If the perimeter of a cube base is 36 cm, then its volume = ... cm^3.

(36 or 6 or 729 or 216)

(2) Complete each of the following:

16) The form of : $\frac{2}{3} = \frac{4}{6} = \frac{8}{12}$ is called .....

17) The ratio between the side length of a square to its perimeter is .....

18) If a : b = 2 : 3 and b : c = 3 : 5 then a : c = ... : .....

19) The area of the rectangle = ... × .....

20) The two diagonals are equal in length in each of ..... and .....

21) The range for the values 7 , 3 , 6 , 9 , 5 is .....

---

(3) Answer the following questions:

22) If the ratio between the measures of the angles of a triangle is 2:3:4, **find the measures of each angle.**

23) A map is drawn with drawing scale 1 : 100000. If the real distance between two cities is 36 kilometers, **then find the distance between them on the map.**

24) A cube of metal, its edge length is 12 cm is melted and transformed into alloy in the shape of a cuboid, its dimensions are 3 cm and 4 cm and 6 cm. **Find the number of alloys.**

25) In the opposite figure: ABCD is a parallelogram in which m (∠A) = 60° , **find m (∠B).**

26) Nariman bought a refrigerator on the sale by 2185 pounds after discount 5%, **find the price of it before the discount.**

27) The following table shows the marks of 100 pupils in one month in mathematics.

The marks	20 –	30 –	40 –	50 –	Total
Number of pupils	15	30	40	15	100

a) What is the number of the pupils who got less than 40 mark?

b) Represent these data by the frequency curve.

5 Cairo Governorate / El-Zeitoun Educational Zone

(1) Complete each of the following:

1) The volume of the cuboid = ... × .....

2) The ratio between the circumference of a circle and its radius is .....

3) The two diagonals are perpendicular in each of ..... and .....

4) $\frac{3}{4}$ = ... %

5) The range of the values 19 , 11 , 9 , 33 , 54 = ...

6) If the drawing length is 2 cm and the real length is 6 m, then the drawing scale is .....

---

(2) Choose the correct answer:

7) $\frac{2}{3} : 3\frac{1}{3}$ in the simplest form is ..... (1 : 2 or 2 : 15 or 2 : 5 or 1 : 5)

8) If 3 , 4 , x and 12 are proportional quantities, then x = ... (5 or 7 or 8 or 9)

9) The sum of measures of the consecutive angles in a parallelogram = ... (60° or 90° or 180° or 360°)

10) The ratio between 2 feddans : 16 kirates is ..... (3 : 1 or 1 : 3 or 1 : 8 or 8 : 1)

11) A car consumes 20 liters of benzene for covering 210 km. How many liters of benzene does the car consume to cover 630 km? (60 or 120 or 80 or 100)

12) The following data are all quantitative except ..... (age or name or length or weight)

13) 0.35 + $\frac{9}{20}$ = ...% (44 or 70 or 80 or 55)

14) The following data are descriptive except ..... (color or hobby or tallness or blood type)

15) The sum of measures of the interior angles of triangle = ...

(360° or 180° or 90° or 108°)

16) If $\frac{x}{15} = \frac{2}{5}$, then $x + 4$ = ...

(6 or 8 or 10 or 12)

17) In the opposite figure: the number of parallelograms = ...

(4 or 5 or 7 or 9)

18) 12 % + 3 % = ...

(4 or 30 % or 15 % or 4%)

19) 5 cm^3 = ... milliliters

(5000 or 0.005 or 5 or 50)

20) If the sum of areas of all faces of a cube equals 54 cm^2, then its volume = ... cm^3.

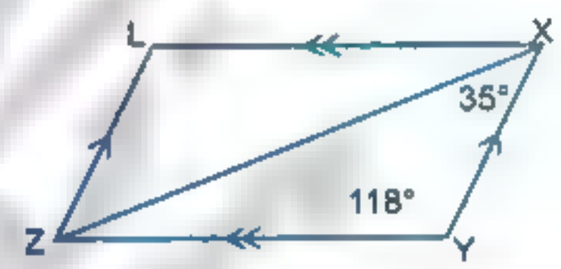
(9 or 2916 or 27 or 81)

B3 *Answer the following questions:*

21) If the ratio between the measurements of angles in a triangle is 5 : 6 : 7
then find the measures for each angle in the triangle.

22) Sara deposited L.E 9000 in a bank. If the percentage of interest is 11 % per year, **then what is the amount of this sum after one year?**

23) XYZL is a parallelogram in which m (∠Y) = 118° ,
m (∠YXZ) = 35° , **find m (∠L) and m (∠LXZ).**



24) **Find** in cm^3 the volume of the cuboid whose dimensions are 6 cm , 5 cm and 4 cm.

25) The following table showes the ages of visitors to an exhibition within an hour of the day.

Visitors' ages	10 –	20 –	30 –	40 –	50 –	Total
Number of visitors	6	9	12	10	8	45

Draw the frequency curve for this distribution.

26) A cubic vessel, its internal edge length equals 15 cm, it was filled with honey.
First: Calculate the capacity of the vessel in liter.
Second: Calculate the price of honey if the price of each liter is L.E 8.

6 Giza Governorate - Inspection of Mathematics

Answer the following questions:

1 Choose the correct answer from those given:

1) The sum of measures of interior angles of a triangle = ...

(180° or 90° or 120° or 360°)

2) 250 grams : $\frac{1}{2}$ kg = ... : ..... (2 : 1 or 1 : 3 or 1 : 2 or 1 : 4)

3) If $\frac{2}{7} = \frac{8}{x}$, then x = ... (56 or 28 or 14 or 46)

4) If one angle in the parallelogram is right, then it will be a ... ...

(square or rectangle or rhombus or cube)

5) All the following data are descriptive except .....

(favorite color or the place of birth or age or blood type)

6) The range of the data: 7 , 3 , 6 , 9 and 5 is ... . (4 or 2 or 6 or 12)

7) 1500 cm^3 = ... liter(s). (0.15 or 1.5 or 15 or 150)

8) If the volume of a cuboid is 24 cm^3 and the area of its base is 6 cm^2,

then its height = ... cm (3 or 4 or 12 or 18)

9) A machine irrigates 15 feddans in 6 hours, then the performance of this machine

is ... . feddan / hour. ($\frac{1}{4}$ or $2\frac{1}{2}$ or 4 or $10\frac{1}{2}$)

10) If $\frac{2}{7} = \frac{x}{21}$, then x = ... (6 or 21 or 12 or 7)

11) 4 200 000 cm^3 = ... m^3 (42 or 420 or 4.2 or 4200)

12) $\frac{3}{8} + \frac{1}{8}$ = ... ($\frac{4}{16}$ or $\frac{1}{4}$ or $\frac{1}{2}$ or $\frac{3}{8}$)

13) If $\frac{4}{7} = \frac{x}{14}$, then x = ... (6 or 8 or 10 or 12)

14) The smallest prime number is ..... (0 or 1 or 2 or 3)

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2 Complete each of the following:

15) The area of the rectangle = ... × . . . . .

16) The ratio between the side length of the square and its perimeter = ...

17) Hazem drinks 21 cups of juice in a week then the rate of what he drinks per day = ...

18) $\frac{3}{4}$ = ... %

19) 2.65 liters = ... cm^3

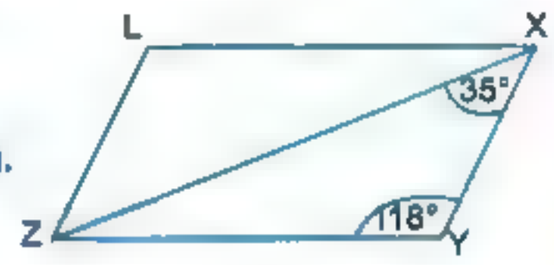
20) $\frac{1}{2}$ = ... (decimal fraction)

3 Answer the following questions:

21) The ratio between A : B = 4 : 3 and the ratio between B : C = 2 : 3, **then find the ratio among A , B , C.**

22) Hany, Khaled and Fady are involved in a business. Hany paid 30000 L.E, Khaled paid 40000 L.E and Fady paid 50000 L.E. At the end of the year, the company lost 6000 L.E. **Calculate the share of the loss each of them.**

23) In the opposite figure: XYZL is a parallelogram in which m (∠Y) = 118° and m (∠YXZ) = 35°. **Find m (∠L) and m (∠LXZ).**



24) A vessel in the shape of a cube, the length of its inner edge is 15 cm. If it's full of molasses, **find its capacity in liters.**

25) A shop owner of an electirc sets sold a refrigerator by 3180 pounds. If the profit is 6%, **find the buying price.**

26) The following table shows the marks of 100 pupils in one of the maths monthly tests.

The marks	10 –	20 –	30 –	40 – 50	Total
Number of pupils	15	30	40	15	100

Draw the frequency curve for this distribution.

7 Giza Governorate - El Omrania Educational Zone

(1) Complete each of the following:

1) If A is twice B, then A : B = ... : .....

2) 25% = ... / ..... (in the simplest form).

3) If the dimensions of a cuboid are equal, then it is called a .....

4) An agricultural tractor ploughs 6 feddans in 3 hours, then the rate of the performance of this machine is .....

5) The circumference of the circle = ...

6) The range of the set of the values 7 , 3 , 15 and 8 is .....

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(2) Choose the correct answer:

7) 7 ..... {55 , 77 , 3} (∈ or ∉ or ⊂ or ⊄)

8) $\frac{3}{10}$ = ... % (10 or 50 or 30 or 20)

9) The two diagonals are equal in length in ..... (rhombus or trapezium or triangle or square)

10) The volume of a cube of edge length 3 cm = ... cm (27 or 9 or 15 or 3)

11) If the drawing length is 6 cm and the real length 6 meters, then the drawing scale = ... (1 : 10 or 1 : 100 or 1 : 1000 or 1 : 1)

12) $3\frac{3}{4}$ = ... ($\frac{15}{4}$ or $\frac{4}{15}$ or $\frac{13}{4}$ or $\frac{10}{3}$)

13) 36.5 + ... = 3.65 (10 or 100 or 1000 or 1)

14) If the numbers 3 , 5 , x and 20 are proportional, then x = ... (6 or 12 or 15 or 21)

15) The sum of measures of the interior angles of the triangle = ... (90° or 108° or 120° or 180°)

16) The two diagonals are perpendicular and bisect each other in each of .....

(square and rhombus **or** rhombus and rectangle **or** rectangle and trapezium **or** square and rectangle)

17) The ratio between 250 grams : $\frac{1}{2}$ kg = ...

($\frac{1}{2}:\frac{1}{4}$ **or** $\frac{1}{4}:\frac{1}{2}$ **or** $1\frac{1}{4}:\frac{1}{2}$ **or** $\frac{1}{4}:1\frac{1}{2}$)

18) If $\frac{x}{9}=\frac{4}{3}$, then $x+2$ = ... (12 **or** 14 **or** 16 **or** 20)

19) $\frac{4}{5}$ = ... (decimal form) (0.2 **or** 0.8 **or** 0.25 **or** 0.75)

20) If $\frac{4}{6}=\frac{12}{x}$, then x = ... (16 **or** 18 **or** 20 **or** 22)

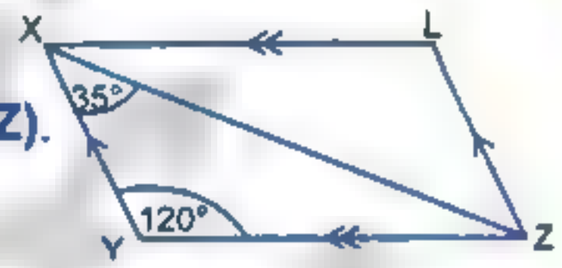
(3) *Answer the following questions:*

21) Heba bought a vacuum cleaner for 220 pounds with a discount 20%. **Calculate the price before discount.**

22) A picture of a house was drawn with a drawing scale 1 : 1000. If the height of the house in the picture is 3 cm, **find the real height of the house.**

23) In a primary school, the number of pupils in the first, second and third grades is 240 pupils. If the ratio between the numbers of pupils in the three grades is 5 : 4 : 3, **calculate the number of pupils in each grade of them.**

24) In the opposite figure: XYZL is a parallelogram in which m (∠Y) = 120° , m (∠YXZ) = 35° , **find m (∠L) and m (∠LXZ).**



25) A swimming pool in the shape of a cuboid with dimensions 30 m , 40 m and 2 m. **Find its capacity in liters.**

26) The following table shows the numbers of hours which the pupils spend in front of the computer.

Number of hours	1 –	2 –	3 –	4 –	5 –	Total
Number of students	8	12	15	6	4	45

Represent these data by frequency curve.

8 Giza Governorate - Dokki Educational Directorate

Answer the following questions:

I1 **Choose the correct answer:**

1) The range of the data set 7 , 3 , 6 , 9 , 5 is ..... (2 or 6 or 12)

2) The diagonals are perpendicular in ..... (rectangle or square or parallelogram)

3) If the real length is 5 m , and the drawing length is 5 cm, then the drawing scale is ..... (1:10 or 1:1000 or 1:100)

4) If $\frac{5}{4} = \frac{10}{x}$, then x = ... (5 or 8 or 4)

5) $\frac{3}{4}$ = ... (0.2 or 0.5 or 0.25 or 0.75)

6) If $\frac{x}{9}$ = 15%, then x = ... (13.5 or 35 or 135 or 1.35)

7) $\frac{4}{5}$ = ... % (50 or 60 or 70 or 80)

8) 6500 dm^3 = ... m^3 (6.5 or 65 or 605 or 650)

9) If the numbers 4 , x , 12 and 18 are proportional, then the value of x = ... (2 or 3 or 6 or 9)

10) The two diagonals are equal in length in the ..... (parallelogram or rhombus or trapezium or square)

11) $\frac{1}{2}$ = ... (0.5 or 0.2 or 0.1 or 0.05)

12) 39 days ≃ ..... weeks (5 or 6 or 7 or 8)

13) A cube of volume 125 cm^3, then the area of its base = ... (25 cm^2 or 25 cm or 5 cm^2 or 5 cm)

14) The measure of the straight angle = ... (90° or 180° or 270° or 360°)

I2 **Complete each of the following:**

15) 4 kilograms : 1000 grams = ... : ..... (in the simplest form)

16) $\frac{7}{10}$ = ... %

17) The volume of a cuboid = area of base × .....

18) In a parallelogram, each two opposite angles are .....

19) $\frac{2}{5}$ + 30% = ...

20) 65 dm^3 = ... liters

3 Put (✓) for the correct sentence and (X) for the wrong one:

21) The preferred type of data is quantitative. ( )

22) The volume of the cube whose edge is 2 cm is 8 cm^3. ( )

23) The numbers 3 , 4 , 12 and 16 are proportional numbers. ( )

24) If x : y = 4 : 5 and y : Z = 5 : 3 then x : Z = 3 : 4 ( )

25) Join from column (A) what is suitable from column (B):

	(A)	(B)
1)	The number of faces of a cube = ... faces	90°
2)	If the drawing scale is > 1, then it means	1 : 4
3)	The measure of each angle of a square = ...	magnification
4)	The ratio between the length of the side of a rhombus to its perimeter is	6

26) In the opposite figure: ABCD is a parallelogram if m (∠C) = 70° :

1) m (∠A) = ...°

2) m (∠B) = ...°

27) The following table represents the marks of 50 students in a monthly test of mathematics.

The marks	10 –	20 –	30 –	40 – 50	Total
Number of students	6	10	20	14	50

Complete:

1) The number of students who got 30 marks or more = ... students.

2) The number of students who got less than 30 marks = ... students.

9 Alexandria Governorate Directorate of Education

Answer the following questions:

(1) Choose the correct answer from those given:

1) If an agriculture tractor ploughs 28 feddans in 4 hours, then the time needed to plough 42 feddans is ..... (4 or 6 or 7 or 8)

2) 55 mL = ... cm^3 (55 or 5.5 or 550 or 0.55)

3) The range of the set of values 3 , 12 , 2 , 9 , 17 and 15 is ..... (2 or 12 or 14 or 15)

4) If X = {2 , 1} , Y = {5 , 1}, then X ∩ Y = ... (∅ or {5 , 2 , 1} or {1} or {5 , 2})

5) 0.0635 ≃ ..... to the nearest hundredth. (0.06 or 0.063 or 0.07 or 0.63)

6) If the number of sets of a frequency table is 5 and the range is 10, then the length of the set = ... (2 or 5 or 15 or 50)

7) If $\frac{x+4}{2} = 5$, then x = ... (14 or 2 or 6 or 3)

8) 5 × 7 = 5 × 5 + 5 × ..... (0 or 2 or 5 or 7)

9) 5 m^3 = ... dm^3 (5 or 50 or 500 or 5000)

10) 1.2 liters + 800 cm^3 = ... liters (2 or 9.2 or 200 or 2000)

11) If 2 , x , 8 , 20 are proportional, then x = ... (2 or 5 or 7 or 1)

12) The centimeter cube is a unit for measuring .....

(the perimeter or the area or the volume or the length)

13) {3 , 5} ∩ {4 , 5} = ... ({3} or {5} or {4} or {3 , 4 , 5})

14) ..... is quantitative data.

(The favorite color or The birth place or The blood species or The volume)

(2) Complete each of the following:

15) The favourite color and the birth place are from ... . data.

16) The ratio between the side length of the square and its perimeter = ... : .....

17) The parallelogram is a rectangle if ... .

18) If the drawing scale < 1 this expresses ....

19) The surface area of the triangle = ... × . ... × .. ..

20) If $\frac{4}{6} = \frac{12}{x}$, then $x + 2$ = ...

(3) Answer the following questions:

21) a , b and c are three numbers such that the ratio a : b = 4 : 3 and the ratio b : c = 2 : 3.
Find the ratio among the three numbers a , b , c.

22) In one of commercial shops, the percentage of the discount on sale was 20 %. If Ahmed bought a pair of trousers and the price written on it was LE 80, find what Ahmed paid after discount.

23) Ahmed drew a picture for his brother Osama with a drawing scale 1 : 40. If the real height of Osama is 160 cm, what is the height in the picture?

24) A container has 12 liters of oil. If the oil is wanted to be put in small bottles, the capacity of each is 400 cm^3, calculate the number of bottles which are needed.

25) The opposite figure shows a parallelogram in which m (∠B) = 110° and m (∠DAC) = 30°.
Find m (∠D) and m (∠BAC).

26) The following table shows the extra money which 100 workers got in a month in a factory.

The extra money	20 –	30 –	40 –	50 –	60 –	70 –	Total
Number of workers	20	15	30	20	10	5	100

1) What is the number of workers who obtained extra money less than 50 pounds?

2) Draw the frequency curve for this distribution.

10 Qaluobia Governorate - Benha Educational Zone

B1 Complete each of the following:

1) If the marks of 4 pupils in a maths test are 22 , 39 , 62 and 54, then the range of the marks = ...

2) The ratio between 18 hours and one day is ..... : ..... (in the simplest form)

3) If $\frac{x + 12}{6} = 4$, then x = ...

4) The difference between the greatest value and the smallest value in a set of individuals is called .....

5) 1500 cm^3 = ... liters.

6) A machine produces 600 meters of clothes regularly in one hour and half, then the rate of production in meter per hour = ...

B2 Choose the correct answer:

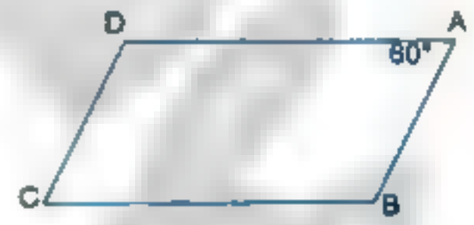
7) The opposite data are descriptive except .....
(the favorite color **or** birthday **or** age **or** blood species)

8) If the drawing length of an object is 2 cm and its real length equals 20 meters then the drawing scale = ... (1 : 10 **or** 1 : 100 **or** 1 : 1000 **or** 1 : 10000)

9) 30% of a number equals .....
(its third **or** its three tenths **or** its three fifths **or** Its three sevenths)

10) Look at the following pattern △○△△○○△△△○○○△, which pattern of the following has the same previous pattern? ..... .
(?□??□□??□□□ **or** □??□□??□□ **or** ??□□□???□□ **or** □??□□??□□???□)

11) In the following figure:
ABCD is a parallelogram m (∠A) = 60°,then
m (∠B) = ... (30° **or** 60° **or** 90° **or** 120°)



12) The greatest time in the following is .....
(3600 seconds **or** 900 minutes **or** 12 hours **or** one day)

13) $\frac{1}{5}$ = ...% (10 **or** 20 **or** 30 **or** 40)

14) If the marks of 3 students in one exam is (27 , 36 , 57), then the range of these marks = ... (30 **or** 20 **or** 40 **or** 50)

15) If the numbers 5 , 8 , 15 , x are proportional, then x = ...

(21 or 42 or 24 or 15)

16) The sum of measures of the interior angles of a triangle = ...

(180° or 90° or 80° or 108°)

17) If $\frac{x}{5}$ = 40 %, then x = ...

(5 or 4 or 3 or 2)

18) $\frac{3}{4}$ = ...

(0.2 or 0.75 or 0.25 or 0.5)

19) If 97 is the greatest value of a set and its range is 67, then the smallest value is .. ..

(164 or 30 or 82 or 14)

20) 7.2 + 0.9 = ...

(7.11 or 8.1 or 71.1 or 80.1)

(3) *Answer the following questions:*

21) If the price of the packet of soap powder increased from L.E 6 to L.E 7.5, **find the percentage of the increase.**

22) ABC is a triangle in which AB : BC : CA = 3 : 5 : 7, if the difference between the lengths of $\overline{AB}$ and $\overline{BC}$ is 4 cm, find the lengths of the sides of the triangle and its perimeter.

23) Three persons set up a company. At the end of the year the profit has been divided. The share of the first = $\frac{5}{3}$ the share of the second, the share of the second = $\frac{4}{3}$ the share of the third. If the share of the first is more than the share of the third by 8250 pounds, **what is the share of each of them?**

24) A container in the shape of a cube, the length of its interior edge equals 20 cm. If it's filled with molasses, **calculate its capacity.**

25) A cuboid, the perimeter of its base is 36 cm and the ratio between the length and width of its base equals 5 : 4. **Find its length, width and calculate its volume if its height equals 12 cm.**

26) The following table shows the marks of 100 students in maths in one of the months.

Marks	20 –	30 –	40 –	50 –	Sum
Number of students	15	30	40	15	100

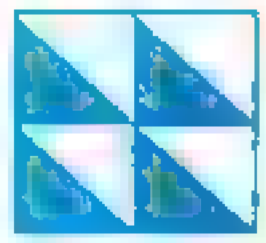
Draw the frequency curve for this distribution.

11 Sharkia Governorate - Diarb Negm Directorate

Answer the following questions:

1 Choose the correct answer from those given:

1) The fraction which is represented by the shaded part = ...



($\frac{1}{2}$ or $\frac{1}{4}$ or $\frac{1}{3}$ or $\frac{4}{7}$)

2) The number of the cube edges = ... (8 or 6 or 12 or 3)

3) 0.23 m^3 = ... liters (0.23 or 23000 or 0.023 or 230)

4) The ratio between 15 hours and one day in the simplest form = ...

(1 : 15 or 15 : 1 or 8 : 5 or 5 : 8)

5) If $\frac{4}{6} = \frac{8}{x}$, then $x + 2$ = ... (14 or 16 or 18 or 20)

6) All the following data are quantitative except ....

(age or length or number of sons or favorite color)

7) The following data are descriptive except ....

(the address or the area or the name or the birth place)

8) {3 , 5} ∩ {4 , 5} = ... ({3} or {5} or {4} or {3 , 4 , 5})

9) .... is quantitative data.

(The favorite color or The birth place or The volume or The blood species)

10) If 2 , x , 6 , 9 are proportional, then x = ... (4 or 6 or 3 or 5)

11) The range of the values (2 , 2 , 7 , 13 , 18) is .... (4 or 5 or 11 or 16)

12) 45 dm^3 = ... liters. (450 or 45 or 4.5 or 4500)

13) 65% = ... (65 or 0.65 or 650 or 6.5)

14) The sum of measures of the interior angles of a triangle = ...

(90° or 360° or 60° or 180°)

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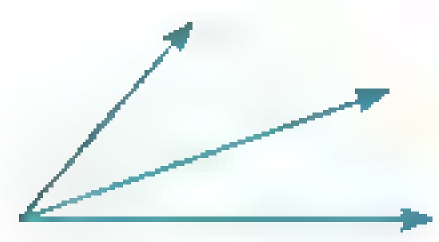
2 Complete each of the following:

15) In the opposite figure:

The number of acute angles = ...



16) The range of the following data 29 , 33 , 57 , 40 , 36 and 49 is ..... .

17) 0.12 = ...%

18) A car covers a distance of 180 km. In three hours, the rate of velocity = ... km /hr.

19) The next term of the pattern  is .....

20) If the range of some values = 40 and the number of sets = 10, then the length of the set = ...

(3) Answer the following questions

21) In a primary school, the number of students is 560. If the number of girls = $\frac{3}{5}$ boys, **find the number of boys and girls.**

22) Ahmed drew a picture for his brother Osama by a drawing scale 1 : 40. If its real length is 160 cm, **find the length in picture.**

23) Khaled bought a flat by 150000 L.E. After selling it, he found the percentage of loss = 5%. **Find the selling price of the flat.**

24) The opposite figure represents a parallelogram, m (∠B) = 110° and m (∠DAC) = 30°,
find m (∠D), m (∠BAC) and m (∠ACD).

25) A cube of cheese with edge length 15 cm, it's wanted to be divided into small cubes of edge length 3 cm. **Find the number of resulted small cubes of cheese.**

26) The following table shows the studying hours by 40 students daily.

Sets	1 –	2 –	3 –	4 –	5 – 6	Sum
Number	6	3	8	12	11	40

Represent these data by frequency curve.

12 Qalubia Governorate - Qalubia Educational Administration

Answer the following questions:

I) Choose the correct answer from those given:

1) $\frac{3}{4}$ = ... (decimal form) (0.2 or 0.5 or 0.25 or 0.75)

2) $\frac{24}{5}$ = ... ($4\frac{1}{5}$ or $3\frac{2}{5}$ or $4\frac{4}{5}$ or $2\frac{4}{5}$)

3) 8 hours : $3\frac{1}{3}$ days = ... (1 : 10 or 8 : 9 or 1 : 3 or 1 : 4)

4) If $\frac{4}{6} = \frac{12}{x}$, then $x + 2$ = ... (16 or 18 or 20 or 22)

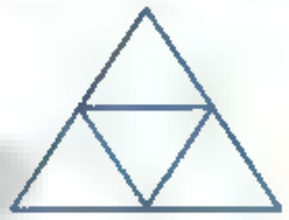
5) The sum of the measures of any two consecutive angles in the parallelogram = ...
(108° or 180° or 360° or 90°)

6) The range of the set of values 50 , 25 , 35 and 20 is ..... (10 or 20 or 30 of 40)

7) The circumference of the circle = ... (πr or πr^2 or $2\pi r$ of $3\pi r$)

8) The following data are quantitative except .....
(age or tallness or favorite color or weight)

9) In the opposite figure: The number of triangles is ..... .
(4 or 5 or 7 or 9)



10) If the real length of a tree is 6 meters, and the drawing length is 6 cm,
then the drawing scale = ... (1 : 10 or 1 : 100 or 1 : 1000 or 1 : 600)

11) If $\frac{x}{6} = \frac{2}{3}$, then x = ... (5 or 4 or 3 or 2)

12) The range of the set of the values 7 , 3 , 6 , 9 , 5 is ..... (4 or 2 or 6 or 12)

13) 7 ..... {17 , 707} ($\subset$ or $\not\subset$ or $\in$ or $\notin$)

14) 6.7 dm^3 = ... liters. (67 or 6.7 or 670 or 6700)

II) Complete each of the following:

15) The area of the triangle = $\frac{1}{2}$ the length ..... × .....

16) a , b and c are three numbers such that the ratio a : b = 4 : 3 and the ratio b : c = 2 : 3 then the ratio a : c = ... : .....

17) If $\frac{x}{5}$ = 40 % , then x = ...

18) 1.5 liter + 0.5 dm^3 + 500 cm^3 = ... liters.

19) The following data (age - date - phone number) is ..... .

20) The number of sets = $\frac{\text{.....}}{\text{the length of set}}$

3 Answer the following questions:

21) A triangular piece of land, the ratio between the length of its sides is 4 : 6 : 7. If the perimeter of this piece of land equals 51 meters, find the lengths of the sides of this land.

22) A map is drawn for some cities by a drawing scale 1 : 400000. If the real distance between two cities is 46 km, find the distance between them on the map.

23) Heba bought an electric sweeping machine for L.E 850. If the discount is 15%. calculate the original price of the sweeping machine before discount.

24) A metallic cube of edge length 12 cm is converted into ingots in the shape of cuboid, each of them of dimensions 3 , 4 and 6 cm. Calculate the number of ingots that are obtained.

25) The opposite figure:

m (∠Y) = 118°, m (∠YXZ) = 35° ,

find m (∠ L) and m (∠ LXZ).

26) The following table shows the marks of 100 students in one month in math test.

Marks	10 –	20 –	30 –	40 – 50	Total
Number of students	15	30	40	15	100

Draw the frequency curve for this distribution.

13 Ghadbia Governorate - Zefta Educational Directorate

Answer the following questions:

(1) Choose the correct answer from those given:

1) 72 .45 ÷ 100 = ... (724.5 or 7245 or 0.7245 or 7.245)

2) The sum of interior angles of a triangle = ... (170° or 200° or 360° or 180°)

3) If $\frac{4}{9} = \frac{16}{x}$, then x = ... (81 or 27 or 36 or 18)

4) $\frac{5}{20}$ = ... % (20 or 25 or 35 or 50)

5) If the dimensions of a cuboid are 3 cm , 4 cm and 6 cm, then its volume = ...

(40 cm^3 or 60 cm^3 or 52 cm^3 or 72 cm^3)

6) The following data are descriptive except .....

(color or address or age or blood type)

7) If $\frac{8}{x} = 0.5$, then x = ... (8 or 12 or 16 or 21)

8) If the length of the diagonal of the square is 8 cm, then its area = ...

(64 cm^2 or 32 cm^2 or 16 cm^2 or 8 cm^2)

9) If the volume of a cube equals 125 cm^3, then its base area = ...

(35 cm^2 or 25 cm^2 or 15 cm^2 or 5 cm^2)

10) The following data are quantitative except .....

(date or the birth place or age or grade)

11) 5 cm^3 = ... milliliters. (500 or 0.005 or 5 or 50)

12) The ratio between 3 feddans : 40 kirats = ... ($\frac{3}{4}$ or $\frac{5}{9}$ or $\frac{9}{5}$ or $\frac{4}{3}$)

13) The range of the set of values 5 , 4 , 8 , 12 , 7 is ..... (8 or 7 or 5 or 4)

14) If $\frac{3}{5} = \frac{9}{x}$, then x = ... (3 or 5 or 15 or 27)

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(2) Complete each of the following:

15) If a : b = 2 : 3 , b : c = 3 : 5, then a : c = ... : .....

16) If $\frac{x}{20}$ = 45 % , then x = ...

17) If the volume of a cube is 8000 cm^3 , then its edge length = ... cm

18) 25 kirats : 3 feddans = ... : .....

19) The two diagonals are equal in length and perpendicular in .....

20) The range of the set of values 15 , 13 , 12 and 8 is .....

(3) *Answer the following questions:*

21) If the buying price of a refrigerator is L.E 3400 and its selling price is L.E 3740, **find the percent of the profit.**

22) A water tap is leaking 20 liters of water in 5 hours. **Find the leaking rate per hour.**

23) The price of a mobile phone before discount is L.E 2400. If the discount is 20 %, **what is the price after the discount?**

24) A tin in the shape of a cuboid. Its dimensions are 20 cm , 30 cm and 40 cm. If its filled with honey, **find the price of the honey if the price of one liter is L.E 20.**

25) A father divided a sum of money between Sara and Omar in the ratio 3 : 5. If the share of Omar exceeds the share of Sara by L.E 200, **find the share of each one.**

26) The following frequency distribution table represents the daily wages of 50 workers in a factory.

Wages	10 –	20 –	30 –	40 –	50 –	Sum
Number of workers	5	12	10	15	8	50

1) **Draw** the frequency curve for this distribution.

2) **Find** the percentage of the number of workers whose wages begin from L.E 30 to less than L.E 50.

14 Ismailia Governorate - El Qantra Gharb Educational Zone

Answer the following questions:

(1) Choose the correct answer from those given:

1) If the perimeter of a square equals 32 cm, then its side length = ... cm
(3 or5 or7 or8)

2) The prime number which is direct after number 17 is ..... (11 or13 or19 or23)

3) 150 cm : 3 m = ... : ..... (1 : 2 or1 : 3 or1 : 5 or1 : 7)

4) $\frac{1}{4}$ = ... % (20 or25 or50 or75)

5) The number of the faces of a cube = ... (4 or5 or6 or8)

6) The following data are descriptive except .....
(color orbirth place orblood species orage)

7) The range of the set of values 7 , 3 , 6 , 9 , 5 equals ..... (3 or4 or6 or17)

8) 4.6 liters = ... mL. (46 or460 or4600 or46000)

9) The length of an insect in the picture is 4 cm, and its real length is 2 mm, then
the drawing scale is ..... (1 : 20 or1 : 80 or20 : 1 or80 : 1)

10) The diagonals are perpendicular in each of ....
(square and rectangle orrhombus and rectangle orsquare and rhombus orparallelogram and rectangle)

11) ..... is quantitative data.
(The favorite color orThe birth place orBlood species orThe age)

12) 6500 dm^3 = ... m^3 (65000 or650 or65 or6.5)

13) 7 ..... {17 , 707} ($\subset$ or$\not\subset$ or$\in$ or$\notin$)

14) 6.7 dm^3 = ... liters (67 or6.7 or670 or6700)

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(2) Complete each of the following:

15) The sum of the measures of the interior angles of a triangle is .....

16) The ratio between 18 hours and one day ..... : ..... (in the simplest form)

17) If the number x , 18 , 6 , 9 are proportional, then x = ...

18) If the sum of lengths of all edges of a cube equals 24 cm, then the volume = ... cm^3

19) The kinds of statistic data are ..... and .....

20) The range of the values 2 , 7 , 6 , 9 and 5 equals ..... .

(3) *Answer the following questions:*

21) A car covers 360 km in 4 hours. **Calculate the rate of the covered distance per hour.**

22) If the height of a building in a picture equals 3 cm and the real height equals 18 m.
Calculate the drawing scale of that picture.

23) The number of pupils of a primary school is 500 pupils, 7% of them were absent one day. **Calculate the number of present pupils that day.**

24) **Find** the volume of a cuboid of dimensions 6 cm, 4 cm and 3 cm.

25) In the opposite figure:

ABCD is a parallelogram in which m (∠C) = 60°, AB = 4 cm.

Find: **1)** The side length $\overline{DC}$ **2)** m (∠A)

26) The following table shows the number of hours which 40 pupils spend in studying their lessons every day.

No. of hours	1 –	2 –	3 –	4 –	5 – 6	Total
No. of pupils	6	3	8	12	11	40

Represent these data by the frequency curve.

15 Suez Governorate - Directorate of Education

Answer the following questions:

(1) Choose the correct answer from those given:

1) If the values of a frequency distribution lie between 5, 35, then the range of this distribution = ... (7 or 30 or 40 or 175)

2) 5600 cm^3 = ... liters. (5.6 or 6.5 or 56 or 560)

3) The following data are descriptive except ..... (favorite color or birth place or age or blood species)

4) The numbers (3 , 5 , 7 , 9) are ..... numbers. (odd or even or prime or otherwise)

5) 45% + ... % + 30% = 100% (25 or 30 or 35 or 70)

6) $\frac{1}{8}$ = ... (in decimal form) (0.5 or 0.25 or 0.125 or 0.375)

7) $\frac{x}{21} = \frac{2}{7}$, then $x - 3$ = ... (6 or 4 or 3 or 2)

8) The lowest common multiple of 6 , 9 is ..... (3 or 6 or 9 or 18)

9) 0.03 < ..... (0.02 or 0.1 or 0.009 or 0.011)

10) The range of the set of values 7 , 3 , 6 , 9 , 5 is ..... (9 or 3 or 6 or 7)

11) {3 , 5} ∩ {4 , 5} = ... ({3 } or {5} or {4} or {3 , 4 , 5})

12) If $\frac{5}{9} = \frac{15}{x}$, then x = ... (3 or 5 or 15 or 27)

13) 5 + 5 + 5 + 5 = 5 × ..... (3 or 4 or 5 or 6)

14) The ratio between the side length of a cube and its base perimeter = ... (4 : 1 or 1 : 3 or 3 : 1 or 1 : 4)

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(2) Complete each of the following:

15) The numbers 4 , x , 12 , 18 are proportional, then the value of x = ...

16) The statistic data which we use in our daily life are two kinds: descriptive data and ..... data.

17) If a : b = 4 : 3 , b : c = 2 : 3, then a : c = ... : .....

18) The volume of a cube of edge length 4 cm = ... cm^3

19) 3.572 + ... = 0.3572

20) The ratio between the side length of a square and its perimeter = ... : .....

(3) Answer the following questions

21) A ship for transporting goods among the countries. If it consumes 25 liters of fuel to cover a distance of 100 km, **calculate the rate of consumption of fuel.**

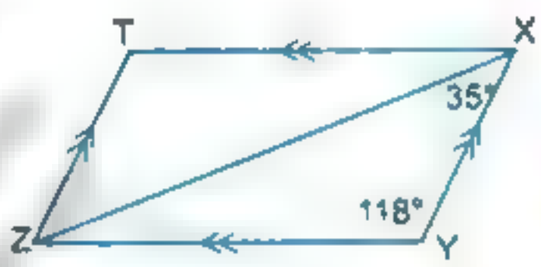
22) The sum of three dimensions of a cuboid is 48 cm and the ratio among the length of its dimensions is 5 : 4 : 3. **Find its volume.**

23) A picture was taken to an artificial scene with a drawing scale 1 : 100. If the real length of a tree is 8 meters. **Find its length in the picture.**

24) A shopkeeper for electric sets sold a refrigerator for L.E 3180. If the percentage of his profit is 6%, **find the buying price.**

25) In the opposite figure: XYZT is a parallelogram in which m (∠Y) = 118° and m (∠YXZ) = 35°.

Find: **1)** m (∠T) **2)** m (∠TXZ)



26) The following table shows the extra money which 100 workers got in a month in a factory.

They are as follows:

The extra money	20 –	30 –	40 –	50 –	60 –	70 –	Total
Number of workers	20	15	30	20	10	5	100

Draw the frequency curve of this distribution.

16 Dakahlia Governorate Maths Supervision

(1) Complete each of the following:

1) 30 % of 60 = 20% of ....

2) Each what occupies room in space is called ....

3) The diagonals are perpendicular in each of ....

4) $\frac{1}{4} : \frac{1}{3} : \frac{1}{2}$ = ... ; .... : 6

5) The range of the set of values 7 , 3 , 6 , 9 , 5 is ....

6) If a , 3a , 5 and b are proportional, then b = ...

(2) Choose the correct answer:

7) A sum of money was distributed between two persons, the first took the third of the money.

Then the ratio of distributed money between first and the second = ... ; ....

(1 : 3 or 1 : 2 or 2 : 1 or 3 : 1)

8) All of the following are quantitative data except ....

(weight or age or favorite color or tallness)

9) If one angle of a parallelogram is right, then it is called a ....

(rhombus or rectangle or square or trapezium)

10) 75% of liter + 25% of dm^3 = ... (10 liters or 1000 mL or 100 dm or 100 cm)

11) If a is half b, and b is twice c, then a : c = ... (1 : 4 or 1 : 3 or 1 : 1 or 1 : 2)

12) 500 gm : $1\frac{1}{2}$ kg = ... ; ..... (1 : 6 or 1 : 5 or 1 : 4 or 1 : 3)

13) 2.7 ÷ 0.09 = ... (3 or 30 or 0.3 or 0.03)

14) Which of the following data is countable? ....

(favorite color or place of birth or age or blood species)

15) 39 days ≃ ..... weeks. (5 or 6 or 7 or 8)

16) If $\frac{7}{13} = \frac{x}{52}$, then x = ... (14 or 21 or 28 or 25)

17) 18 kirats : 2 feddans = ... : ..... (in the simplest form) (3 : 4 or 4 : 3 or 9 : 2 or 3 : 8)

18) 4.6 liters = ... mL. (46 or 460 or 46000 or 4600)

19) In the opposite figure: The number of parallelograms which can be obtained is ..... (4 or 5 or 7 or 9)

20) The circumference of a circle = ... ($2\pi r$ or πr^2 or πr or $3r$)

(3) *Answer the following questions:*

21) Two machines, the first ploughs 6 feddans at 3 hours, and the second ploughs 6 kirats at 10 minutes. **Which of the two machines is better in performance?**

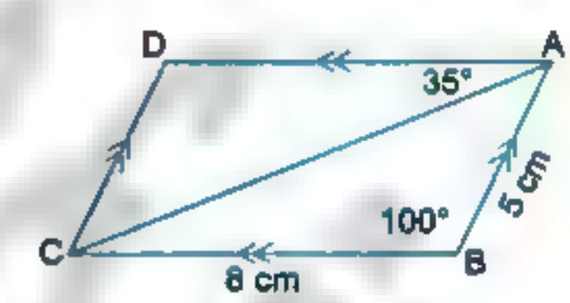
22) A cube of metal whose edge length = 12 cm needs to be melted down and converted into alloys in the form of a cube with dimensions 3 cm , 4 cm and 6 cm. **Calculate the number of alloys that can be obtained.**

23) Find the buying price and the profit of goods sold for 40250 pounds and the percentage of the profit is 15 %.

24) The opposite figure:

ABCD is a parallelogram in which AB = 5 cm, BC = 8 cm,

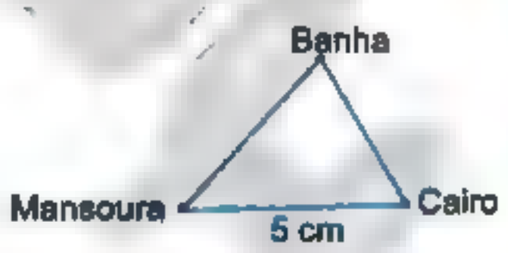
m (∠B) = 100° and m (∠DAC) = 35°



Find: 1) m (∠D) 2) m (∠ACD) 3) The perimeter of the parallelogram.

25) In the opposite figure:

Calculate the drawing scale if the real distance between Cairo and El-Mansoura is 350 km.



26) The following table shows sums of money in pounds paid by a group of contributors in a charity.

The sum	50 –	60 –	70 –	80 –	90 –	100 –
Number of contributors	5	7	10	12	10	7

Draw the frequency curve of this distribution.

17 Gharbia Governorate - East Tanta Educational Directorate

Answer the following questions:

1) Choose the correct answer from those given:

1) 87.56 ≃ 87.6 to the nearest ..... (unit or tenth or ten or hundredth)

2) $\frac{4}{5} + \frac{8}{10}$ = ... ($\frac{56}{50}$ or $\frac{1}{2}$ or 1 or $\frac{2}{3}$)

3) 20% + $\frac{1}{4}$ = ...% (5 or 0 or 60 or 80)

4) If 4 , x , 12 and 18 are proportional quantities, then x = ... (2 or 4 or 6 or 8)

5) The volume of a cuboid whose dimensions are 2 cm , 3 cm and 5 cm = ... cm^3
(10 or 25 or 30 or 50)

6) The following data are quantitative expect .....
(tallness or weight or age or birth place)

7) ..... is quantitative data. (Favorite color or Birth place or Blood species or the Volume)

8) {3 , 5} ∩ {4 , 5} = ... ({3} or {5} or {4} or {3 , 4 , 5})

9) The circumference of a circle = ... ($2\pi r$ or πr^2 or πr or 3r)

10) The measure of the straight angle = ... (180° or 90° or 360° or 120°)

11) A cube of volume 125 cm^3 , its base area = ...
(25 cm^2 or 25 cm or 5 cm^2 or 5 cm)

12) The range of the values 1 , 3 , 4 , 4 , 5 is ..... (1 or 3 or 4 or 5)

13) $\frac{1}{2}$ = ... (0.5 or 0.2 or 0.1 or 0.05)

14) 300 gm : 1 $\frac{1}{2}$ kg = ... (1 : 3 or 1 : 5 or 1 :10 or 1 : 30)

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2) Complete each of the following:

15) $\frac{1}{2} : \frac{1}{3}$ = ... : .....

16) If a : b = 2 : 3 , b : c = 6 : 7 then a : c = ... : .....

17) 0.375 = $\frac{.....}{8}$

18) 6500 dm^3 = ... m^3

19) If the value of a frequency distribution lies between 29, 57, then the range of this distribution = ...

20) The number of the sets = $\frac{\text{the range}}{\text{.....}}$

3 Answer the following questions

21) A primary school has 240 pupils in grade six. If 192 pupils of them succeeded, **find the percentage of success in this school.**

22) If the distance between two cities on a map is 3 cm with drawing scale 1 : 500000. **Find the real distance.**

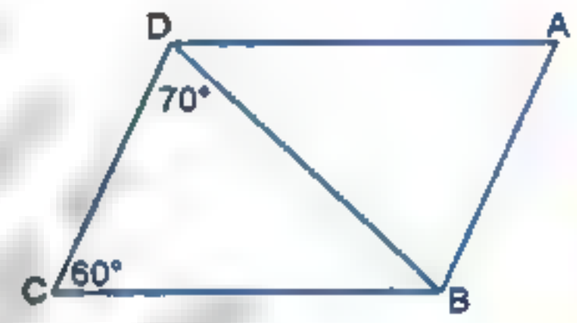
23) Two persons started a commercial business. The first paid L.E 5000 and the second paid L.E 8000. At the end of the year, the profit was L.E 3900. **Calculate the share of each of them from the profit.**

24) In the opposite figure:

ABCD is a parallelogram in which

m (∠C) = 60° and m (∠BDC) = 70°

Find: 1) m (∠A) **2)** m (∠ADB)



25) A metallic cube of edge length 9 cm is needed to be converted into ingots in the shape of a cuboid. Each of them has dimensions of 3 cm , 3 cm and 1 cm. **Calculate the number of ingots that are obtained.**

26) The following table shows the ages of visitors to an exhibition within an hour of the day.

Visitors' ages	10 –	20 –	30 –	40 –	50 –	Sum
Number of visitors	6	9	12	10	8	45

1) What is the number of visitors whose ages are less than 40 years?

2) Draw the frequency curve of this distribution.

18 Beheira Governorate Rasheed Educational Directorate

Answer the following questions:

(1) Choose the correct answer from those given:

1) 0.3 dm^3 = ... cm^3 (3000 or 300 or 30 or 3)

2) 135 × 15 ☐ 135 ÷ 15 (< or > or = or ≥)

3) 27 months : 3 years = ... : ..... (9 : 1 or 9 : 10 or 3 : 4 or 4 : 3)

4) The number of sets = ... + the length of the set.

(maximum value or minimum value or the range or descriptive data)

5) (312 + ...) is divisible by 5 (0 or 1 or 2 or 3)

6) ..... is quantitative data.

(Birth place or Weight or Favorite color or Blood species)

7) 300 gm : 1 $\frac{1}{2}$ k.g = ... (1 : 3 or 1 : 5 or 1 : 10 or 1 : 30)

8) The following data are quantitative except the .....

(age or tallness or favorite color or weight)

9) The cuboid has ..... edges. (12 or 8 or 6 or 4)

10) 1.2 liters + 800 cm^3 = ... liters (2 or 3 or 4 or 5)

11) 20% of 40 k.g = ... k.g (4 or 8 or 12 or 16)

12) $\frac{3}{4}$ liters = ... cm^3 (250 or 500 or 750 or 400)

13) If {3 , 5} ⊂ {3 , 7 , x} then x = ... (5 or 9 or 6 or 15)

14) If a : b = 2 : 3 , b : c = 3 : 5 then a : c = ... (18 : 15 or 2 : 5 or 4 : 9 or 3 : 10)

(2) Complete each of the following:

15) $\frac{9}{20}$ = ... %

16) If a : b = 2 : 3 , b : c = 4 : 5 then a : c = ... : .....

17) The parallelogram is a rectangle if .....

18) $\frac{x+2}{8} = \frac{3}{4}$, then x = ...

19) The range of the set of values 7 , 3 , 6 , 9 , 5 and 4 = ...

20) The sum of measures of the interior angles of the triangles = ...

3 Complete each of the following:

21) A vessel is in the shape of a cube, the length of its interior edge is 20 cm. If it's filled with honey, **calculate the capacity of the vessel in liter.**

22) The ratio between the weight of Hany and the weight of Ahmed is 5 : 6. If the weight of Ahmed is 60 kg, **find the weight of Hany.**

23) A box in a cuboid shape, its inner dimensions are 40 cm, 30 cm and 20 cm. **How many bars of soap we need to fill the box, if the dimensions of each bar of soap is 8 cm, 5 cm and 4 cm?**

24) A company for selling electric sets sells a TV set for 2100 pounds. If the percentage of the profit is 12 %, **find the buying price of the TV.**

25) If the distance between two cities is 180 km and the drawing scale is 1 : 900000.

How long is the distance between the cities on the map?

26) A group of students donate amount of money in pounds shown in the following table:

Money in pounds	3 –	5 –	7 –	9 –	11 –	Total
Number of students	7	10	15	10	8	50

Draw the frequency curve of this distribution.

19 Matrouh Governorate - Directorate of Education

(1) Complete each of the following:

1) The volume of a cuboid is 64 cm^3 and the area of its base is 16 cm^2, then its height = ... cm

2) The area of the triangle = $\frac{1}{2}$ × ..... × .....

3) 65 dm^3 = ... liter

4) The ratio between the side length of the square and its perimeter = ... : .....

5) The four sides are equal in length in each of ..... , ...

6) $\frac{3}{10}$ = ... %

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(2) Choose the correct answer from those given:

7) The range of the set of values 7 ,3 , 6 , 9 and 5 is ..... (4 or 2 or 6 or 12)

8) $\frac{3}{4}$ = ... (decimal form) (0.2 or 0.5 or 25 or 0.75)

9) $\frac{24}{5}$ = ... ($4\frac{1}{5}$ or $3\frac{2}{5}$ or $4\frac{4}{5}$ or $2\frac{4}{5}$)

10) If one angle of a parallelogram is right, then is called a .....

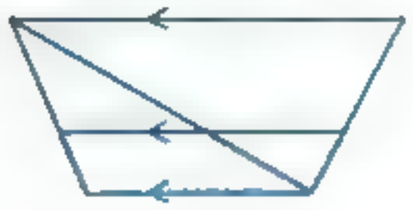
(rectangle or square or rhombus or cube)

11) If $\frac{4}{6} = \frac{12}{x}$, then $x + 2$ = ... (16 or 18 or 20 or 22)

12) An agricultural tractor ploughs 28 feddans is 4 hours, the time which is needed to plough 42 feddans is ..... (4 or 6 or 7 or 8)

13) In the opposite figure:

The number of trapezoids = ... (3 or 4 or 2 or 5)



14) If $\{3, 5\} \subset \{3, 7, x\}$, then x = ... (5 or 9 or 6 or 15)

15) 0.12 = ... % (1.2 or 12 or 0.12 or 120)

16) $\frac{3}{4}$ liter = ... (75 ml or 7.5 dm^3 or 750 cm^3 or 0.075 cm^3)

17) $0.35 + \frac{9}{20}$ = ... % (44 or 70 or 80 or 55)

18) The following data are descriptive except .....

(color or hobby or tallness or blood type)

19) If $\frac{x}{15} = \frac{2}{5}$, then $x + 4$ = ... (6 or 8 or 10 or 12)

20) If the volume of a cube = 27 cm^3, then the area of its one face = ... cm^2.

(9 or 12 or 18 or 24)

3 Answer each of the following:

21) The ratio between the area of two pieces of land is 5 : 9, if the area of one of them is more than the other by 132 m^2, **find the area of the other land.**

22) If the cost price of a set of electric appliances is L.E 72000 and it is sold at 12% profit, **calculate the selling price.**

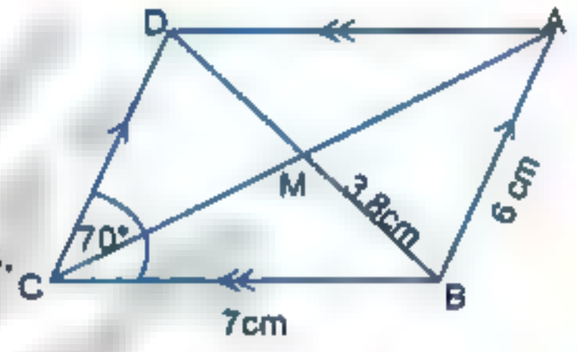
23) A box contains 12 liters of oil, it is wanted to be put in small bottles, the capacity of each is 400 cm^3. **Calculate the number of bottles which are needed.**

24) In the opposite figure:

ABCD is a parallelogram in which AB = 6 cm, BC = 7 cm,

BM = 3.8 cm and m (∠C) =70°, without using geometric tools.

Find: m (∠ADC) and the perimeter of ΔBCD.



25) A picure was taken to an artificial scene with a drawing scale 1 : 100, if the real length of a tree is 8 meters. **Find its length in the picture.**

26) The following table shows the marks of 100 students in one month in a maths test.

Marks	10 –	20 –	30 –	40 – 50	Total
Number of students	15	30	40	15	100

Draw the frequency curve of this distribution.

20 Aswan Governorate - Directorate of Education

Answer the following questions:

1 Choose the correct answer from those given:

1) The smallest prime number is ..... (1 or 2 or 3 or 4)

2) 16 : 64 = ... (in its simplest form) ($\frac{1}{8}$ or $\frac{1}{4}$ or $\frac{1}{3}$ or $\frac{1}{2}$)

3) If the following numbers 4 , 6 , 12 , x are proportional then x = ...

(8 or 12 or 16 or 18)

4) If one angle of a parallelogram is a right angle, then it is called a .....

(rectangle or square or rhombus or trapezium)

5) The center of the set (10 – 20) is ..... (15 or 20 or 25 or 30)

6) The sum of measures of the interior angles of the triangle = ...

(90° or 108° or 120° or 180°)

7) If the numbers 3 , 5 , x , and 20 are proportional, then x = ...

(6 or 12 or 15 or 21)

8) 36.5 × ..... = 3.65 (1 or 10 or 100 or 1000)

9) 45 dm^3 = ... cm^3 (450 or 0.45 or 45000 or 45)

10) 6 months : 2 years = ... (3 : 1 or 1 : 3 or 1 : 4 or 4 : 1)

11) The ratio between 250 grams : $\frac{1}{2}$ k.g = ...

($\frac{1}{2} : \frac{1}{4}$ or $\frac{1}{4} : \frac{1}{2}$ or $1\frac{1}{4} : \frac{1}{2}$ or $\frac{1}{4} : 1\frac{1}{2}$)

12) If the numbers 2 , 5 , 6 , x are in proportion, then x = ...

(3 or 12 or 15 or 30)

13) If $3 \in \{2 , x\}$ then x = ... (1 or 3 or 5 or 6)

14) The ratio between 27 months and 3 years is .....

(3 : 4 or 9 : 1 or 9 : 10 or 27 : 30)

B2 Complete each of the following:

15) $\frac{3}{4}$ = ... (as decimal form)

16) If Hazem drinks 21 glasses of juice in a week then the rate of which he drinks in one day = ... glasses / day.

17) 0.12 = ...%

18) 85 dm^3 = ... liter

19) Height, age and weight represent ..... data.

20) The range of values 7 , 3 , 6 , 9 , 5 equals .....

B3 Complete each of the following:

21) If the ratio between the lengths of two roads is 2 : 5 and the difference between the lengths of two roads is 21 km. **Find the length of each road.**

22) If the length of a fence of a villa in a design is 5 cm, and its real height length is 6 m. **Find the drawing scale of the length.**

23) If the price of a T- shirt is 65 pounds and it has a discount of 15 % . **Find its price after discount.**

24) A cuboid its volume is 64 cm^3 and its base area is 16 cm^2. **Find the height of the cuboid.**

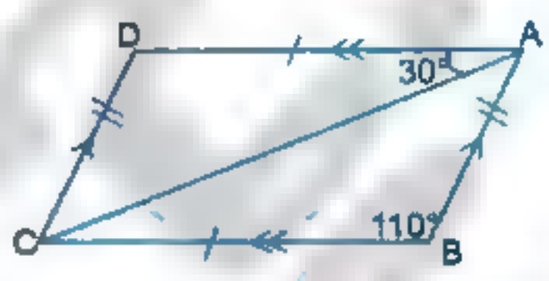
25) In the opposite figure:

ABCD is a parallelogram:

m (∠B) = 110° and m (∠DAC) = 30°

Find:

1) m (∠D) 2) m (∠BAC)



26) In the following table represents the degrees of 50 pupils in one month of mathematics test.

The degree	10 –	20 –	30 –	40 – 50	Sum
Number of pupils	5	15	20	10	50

Draw the frequency curve of this distribution.

21 Kafr El-Sheikh Governorate - Directorate of Education

1) Complete each of the following:

1) Birth place is ..... data.

2) The area of the parallelogram = ...

3) $\frac{1}{2}$ kilometer : 250 meters = ... : .....

4) The volume of the cuboid = ... × .....

5) A circle of diameter length 14 cm, its circumference equals ..... ($\pi = \frac{22}{7}$)

6) The ratio between the side length of an equilateral triangle and its perimeter = ... : ...

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2) Choose the correct answer from those given:

7) 3 ..... {1 , 2 , 3} (∈ or ∉ or ⊂ or ⊄)

8) The range of the set of the values 50 , 25 , 35 , 20 is ..... (10 or 20 or 30 or 40)

9) $\frac{3}{10}$ = ... % (20 or 30 or 40 or 50)

10) If 4 , 6 , 12 , x are proportional numbers, then x + 2= .....
(16 or 18 or 20 or 22)

11) 12000 cm^3 = ... dm^3 (11 or 12 or 13 or 15)

12) If the range is 40 and the length of the set is 5 , then the number of sets = ...
(5 or 6 or 7 or 8)

13) If $\frac{x}{15} = \frac{2}{5}$, then x + 4 = ... (6 or 8 or 10 or 12)

14) All the following data are quantitative except the .....
(length or weight or volume or color)

15) 5 cm^3 = ... milliliters. (5000 or 0.005 or 5 or 50)

16) 12% + 3% = ... (4% or 36% or 15% or 4)

17) If one of the angles of a parallelogram is right, then it will be .....
(square or rhombus or rectangle or trapezium)

18) If Hazem drinks 21 glasses of milk weekly, then the rate of what he drinks daily is ..... (3 glasses or 7 glasses or 14 glasses or 20 glasses)

19) If $\frac{8}{x} = 0.5$, then x = ... (8 or 12 or 16 or 21)

20) If the volume of a cube equals 125 cm^3, then its base area = ...

(35 cm^2 or 25 cm^2 or 15 cm^2 or 5 cm^2)

3 Answer the following:

21) The ratio between the lengths of the sides of a triangle is 2 : 3 : 4, if the perimeter of the triangle is 54 cm. **Find the the length of each side of the triangle.**

22) If the length of the Suez Canal on a map of drawing scale 1 : 1100000 is 15 cm. **Find its real length in kilometers.**

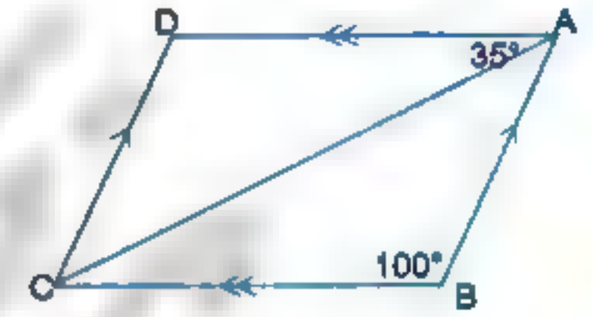
23) Khaled bought a flat for L.E 150000. He sold it at 5% loss. **Calculate the selling price of the flat.**

24) In the opposite figure:

ABCD is a parallelogram in which

m (∠ABC) = 100°, m (∠DAC) = 35° ,

Find: m (∠ADC) and m (∠ACD)



25) A container has 12 liters of honey. If we want to put them in small bottles, the capacity of each is 400 cm^3. **Calculate the number of bottles which are needed for that.**

26) The following table shows the number of hours which spent by 40 pupils to study their lessons daily.

Number of hours	1 –	2 –	3 –	4 –	5 – 6	Total
Number of pupils	6	3	8	12	11	40

Represent these data using the frequency curve.

22 Ben Suif Governorate - Beni Suif Educational Directorate

1 Complete each of the following:

1) Area of square = side length × ....

2) If one angle of a parallelogram is right, then it is called a ....

3) The ratio between the two numbers 16 , 64 = ... : ..... (in the simplest form)

4) A wooden box in the form of a cube, its external volume is 1000 cm^3, its capacity is 729 cm^3, then the volume of the wood of the box = ... cm^3

5) The kinds of statistics data are : .... data and ..... data

6) The rate of production of a factory produces 1000 juice cans in 4 hours = ...
cans / hour

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2 Choose the correct answer from those given:

7) $\frac{1}{5}$ = ... % (10 or 20 or 30 or 40)

8) If the marks of 3 students in one exam is (27 , 36 , 57),
then the range of these marks = ... (30 or 20 or 40 or 50)

9) The following data are quantitative except ....
(age or telephone number or birthday date or favorite color)

10) The sum of measures of the interior angles of a triangle = ...
(180° or 90° or 80° or 108°)

11) The number 235 is divisible by .... (2 or 3 or 5 or 7)

12) If the number 5 , 8 , 15 , x are proportional then x = ... (21 or 42 or 24 or 15)

13) The circumference of the circle = ... (πr or πr^2 or $2\pi r$ or $3\pi r$)

14) The following data are descriptive except ....
(address or tallness or favorite color or name)

15) In the opposite figure : the number of triangles = ...
(4 or 5 or 7 or 9)

16) If $\frac{4}{6} = \frac{12}{x}$, then x = ... (16 or 18 or 20 or 22)

17) $\frac{3}{4}$ = ... (in the decimal form) (0.2 or 0.5 or 0.75 or 0.25)

18) The ratio between $\frac{1}{2}$ k.g : 700 gm = ... (2 : 7 or 5 : 7 or 7 : 5 or 50 : 7)

19) 215 is a number that is divisible by ..... (4 or 5 or 6 or 7)

20) If $\frac{2}{7} = \frac{x}{21}$, then x = ... (6 or 7 or 12 or 21)

(3) Answer the following:

21) If the ratio between the heights of three buildings is 3 : 4 : 5 and if the height of the first buildings is 12 meters. **Calculate the height of the second and third building.**

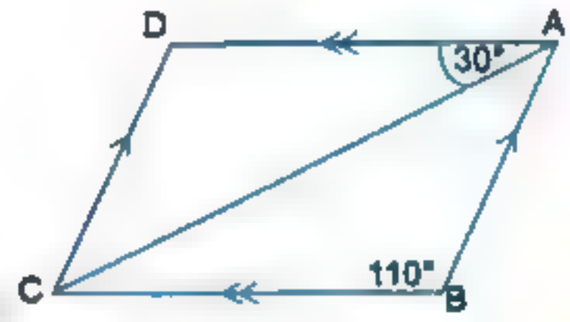
22) If the buying price of some electric sets is L.E 72 000 and they were sold at 12% profit. **Calculate the selling price.**

23) In the opposite figure:

ABCD is a parallelogram in which

m (∠B) = 110°, m (∠DAC) = 30° ,

Find: m (∠D) and m (∠ACD)



24) 10 liters of water were poured in a vessel in the shape of a cuboid, its base is square of side length 25 cm. **Find the height of the water in the vessel.**

25) An engineering design for a villa is made. If the height of the fence of the villa in the design 5 cm and its real height is 3 m. **Find the drawing scale.**

26) The following table shows the marks of 100 students in one month in maths test.

Marks	10 –	20 –	30 –	40 – 50	Sum
Number of students	15	30	40	15	100

Draw the frequency curve for this distribution.

23 Sohag Governorate - Grga Educational Directorate

1 Complete each of the following:

1) The area of the triangle = $\frac{1}{2}$ the base length × ....

2) $\frac{3}{4}$ = ... (decimal form).

3) $\frac{3}{10}$ = ... %

4) If $\frac{2}{3} = \frac{10}{x}$, then x = ...

5) .... = maximum value - minimum value.

6) If the volume of a cuboid equals 64 cm^3 and its base area is 16 cm^2, then its height = ... cm

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2 Choose the correct answer from those given:

7) 250 gm : kg = ... (1 : 4 or 1 : 2 or 2 : 1 or 3 : 4)

8) If $\frac{x}{5}$ = 40 %, then x = ... (2 or 4 or 5 or 8)

9) 65 dm^3 = ... liters (6.5 or 65 or 650 or 6500)

10) If $\frac{75}{100} = \frac{7.5}{.....}$ (150 or 75 or 50 or 10)

11) The sum of measures of each two consecutive angles of a parallelogram = ... (180° or 90° or 60° or 45°)

12) ..... is from the quantitative data. (Color or Age or Birth place or Blood species)

13) The ratio between $\frac{1}{2}$ kg : 700 gm = ... (2 : 7 or 5 : 7 or 7 : 5 or 50 : 7)

14) $\frac{1}{5}$ = ... (decimal form) (0.2 or 0.5 or 0.75 or 0.25)

15) If $\frac{2}{7} = \frac{x}{21}$, then x = ... (6 or 7 or 12 or 21)

16) In the opposite figure: ABCD is a parallelogram,
m (∠A) = 60°,
then (∠B) = ... (30° or 60° or 90° or 120°)

17) The range of the values 7 , 3 , 6 , 9 , 5 is .... (4 or 2 or 6 or 8)

18) If $\frac{x}{5}$ = 40%, then x + 3 = ... (5 or 6 or 7 or 8)

19) 65 m^3 = ... liters (60 or 65 or 70 or 65000)

20) $\frac{1}{4}$ = ... (0.2 or 0.5 or 0.25 or 0.75)

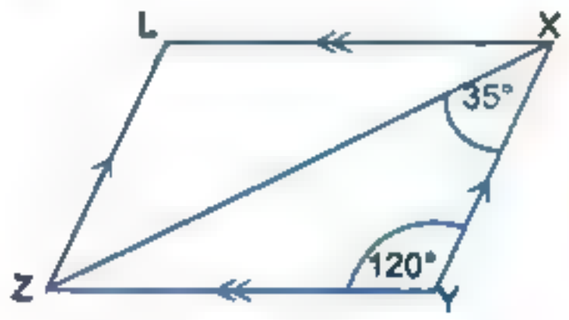
(3) Answer the following:

21) If Hassan drinks 21 glasses of juice weekly. **Calculate the rate of what he drinks daily.**

22) **Find the value of** χ if 3 , 4 , 9 , x are proportional.

23) If the distance between two cities on a map is 3 cm and the real distance between them is 9 km. **Find the drawing scale.**

24) In the opposite figure XYZL is a parallelogram in which m (∠Y) = 120°, m (∠YXZ) = 35°, (without measuring):



Find: **1)** m (∠L) **2)** m (∠LXZ)

25) A container has 12 liters of honey, is wanted to be put in smaller vessels (bottles) the capacity of each is 400 cm^3. **Calculate the number of bottles which are needed for that.**

26) The following table shows the marks of 50 students in mathematics.

Marks	10 –	20 –	30 –	40 – 50	Sum
Number of students	5	15	20	10	50

1) **Draw the frequency curve for this distribution.**

2) **What is the number of students who got less than 30 marks?**

3) **What is the number of students who got 40 marks and more?**

24 Assiut Governorate - Administration of Distinguished & Governmental Language Schools

Answer the following questions:

1 Choose the correct answer from those given:

1) $4\frac{1}{8} \times 2\frac{2}{3}$ = ... (1 or 10 or 11 or 111)

2) The ratio between the side length of square and its perimeter equals .....

(1 : 4 or 4 : 1 or 3 : 1 or 1 : 3)

3) If one angle of a parallelogram is right, then it is called a .....

(square or rhombus or cube or rectangle)

4) $\frac{3}{4}$ = ... % (0.75 or 75 or 750 or 7.5)

5) 48.684 ≃ ..... (to nearest hundredth). (48.68 or 48.7 or 48 or 48.69)

6) The following data are descriptive except .....

(color or blood type or age or hobby)

7) 65 dm^3 = ... liters (560 or 650 or 65)

8) $\frac{1}{2}$ = ... (0.5 or 0.2 or 0.1 or 0.05)

9) 39 day ≃ ..... weeks (5 or 6 or 7 or 8)

10) The range of the set of the values 7 , 3 , 9 , 5 , 6 is ..... (4 or 2 or 6 or 12)

11) A cube of volume 125 cm^3, then the area of its base = ...

(25 cm^2 or 25 cm or 5 cm^2 or 5 cm)

12) The following data are quantitative except .....

(the degree or date of birth or age or blood species)

13) If $\frac{4}{6} = \frac{12}{x}$, then x = ... (10 or 18 or 20 or 22)

14) The circumference of circle = ... (πr or πr^2 or $2\pi r$ or $3\pi r$)

2 Complete each of the following:

15) If $\frac{2}{7} = \frac{8}{x}$, then x = ...

16) If A : B = 4 : 3, B : C = 2 : 3 then A : C = ... : .....

17) If the marks of 6 students in an exam is 29 , 33 , 57 , 40 , 36 , 49, then the range of these marks = ...

18) The opposite figure shows a parallelogram in which:

m (∠B) = 110°, m (∠DAC) = 30°

Find: m (∠ BAC)

19) The longest cord in the circle is .....

20) The height is ..... data

3 Answer the following:

21) If the ratio between the lengths sides of triangle is 2 : 3 : 4 and its perimeter is 54 cm then **find the length of each side of the triangle.**

22) If the length of the Suez Canal on a map of drawing scale 1 : 1100 000 is 15 cm. **Find its real length in kilometers.**

23) Nada bought an automatic washing machine for L.E 3600 and the discount was 10% **calculate the original price of the washing machine before the discount.**

24) A sweet case in the shape of a cuboid, its internal dimensions are 21 cm , 18 cm and 6 cm is wanted to be filled with pieces of chocolate, each of them is a cuboid with dimensions 3 cm , 3 cm and 1 cm. **Calculate the number of chocolate pieces which fill the case completely.**

25) A cube-shaped vessel, its internal edge length is 30 cm is filled with food oil.

1) **Calculate the capacity of the vessel.**
2) If the price of one liter of food oil is 9.5 pounds, **calculate the price of the whole amount of oil.**

26) The following table shows the number of hours spent by 46 pupils to study their lessons daily.

Number of hours	1 –	2 –	3 –	4 –	5 – 6	Total
Number of pupils	6	3	8	12	11	40

Represent these data using the frequency curve.

25 Qena Governorate - Deshna Directorate

1 Choose the correct answer from those given:

1) The following data are quantitative expect .....
(age or weight or favorite color or length)

2) $\frac{3}{4}$ liter = ...
(75 mm or 750 cm^3 or 7.5 dm^3 or 0.075 m^3)

3) The ratio between 27 months, 3 years is .....
(1 : 9 or 3 : 4 or 10 : 9 or 27 : 30)

4) If one of the angles of the parallelogram is right and the two adjacent sides are equal in length, then this shape is called ..... (rhombus or square or triangle or rectangle)

5) $\frac{24}{5}$ = ...
($4\frac{1}{5}$ or $4\frac{4}{5}$ or $3\frac{2}{5}$ or $2\frac{4}{5}$)

6) The range of the values 50 , 25, 35 and 20 is .....
(10 or 20 or 30 or 70)

7) In the opposite figure: the number of triangles = ...
(4 or 5 or 7 or 9)

8) If the real length of a tree is 6 m and the drawing length is 6 cm, then the drawing scale = ...
(1 : 10 or 1 : 100 or 1 : 1000 or 1 : 600)

9) $\frac{4}{5}$ = ... %
(50 or 60 or 70 or 80)

10) 6500 dm^3 = ... m^3
(6.5 or 65 or 605 or 650)

11) The volume of a cube of edge length 3 cm = ... cm^3
(8 or 27 or 64 or 125)

12) The opposite data are quantitative data except .....
(age or weight or temperature degree or blood species)

13) $\frac{4}{5}$ = ... (decimal form)
(0.2 or 0.8 or 0.25 or 0.75)

14) The ratio between 250 grams : $\frac{1}{2}$ kg = ...
($\frac{1}{2} : \frac{1}{4}$ or $\frac{1}{4} : \frac{1}{2}$ or $1\frac{1}{4} : \frac{1}{2}$ or $\frac{1}{4} : 1\frac{1}{2}$)

2 Complete each of the following:

15) The ratio between the side length of the equilateral triangle and its perimeter = ... : .....

16) 5 + 5 + 5 + 5 = 5 × .....

17) The next figure in the following pattern ☐ ☐ ☐ is .....

18) If $\frac{5}{9} = \frac{15}{x}$, then x = ...

19) The difference between the greatest value and the smallest value of the set of values is called .....

20) The sum of any two consecutive angles in a parallelogram = ... °

3 Answer the following questions:

21) Ahmed bought a car for L.E 25000. If he wants to sell it with a profit 10%, **find the selling price.**

22) A container has 12 liters of honey. We need to distribute it on small bottles with each one of capacity 400 cm^3. **Calculate the number of the needed bottles.**

23) The sum of edge lengths of a cube is 132 cm. **Calculate the volume of the cube.**

24) A map is drawn for some cities with drawing scale 1 : 400000, if the real distance between two cities is 46 km, **find the distance between them on the map.**

25) In a primary school, the total number of the pupils is 540 pupils. If the ratio between the number of boys and the number of girls is 4 : 5, then **calculate the number of boys and girls.**

26) The following table shows the extra money which 100 workers got in a month in a factory, they are as follows:

The extra money	20 –	30 –	40 –	50 –	60 –	70 –	Total
Number of students	20	10	30	25	10	5	100

1) **What is the number of workers who obtained extra money less than 50 pounds?**
2) **Draw the frequency curve of this distribution.**